An Intervention to Promote HIV Antibody Testing among College Students

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ABSTRACT

The present study tests the effectiveness of short videotaped messages about HIV antibody testing at promoting HIV testing in a college student population by using four videotape conditions: fear arousal, internal attribution, information only, and a first-aid control video. Male and female participants (n = 163) were recruited and tested in groups of 2 – 14 students. Each participant completed a battery of personality measures including Health Locus of Control, Sexual Opinion Survey, Sensation-Seeking, Self-esteem, Health Self-efficacy, and Social Desirability as well as the HIV Testing Attitude Scale and a demographic questionnaire prior to viewing the video. The HIV Testing Attitude Scale and demographic questionnaire were administered after the video to examine immediate effects and at a follow-up session to examine long-term effects. Results indicate there was a decrease in perceived susceptibility to HIV infection for participants in the *Fear Arousal* videotape condition. In addition, self-reported self-efficacy with regard to condom use increased after participants viewed the *Fear Arousal* videotape. These effects were not observed in any of the other videotape conditions. This suggests that while the *Fear Arousal* videotape demonstrated some interesting effects, the other videotape conditions fail to make much difference in participant's responses. This is discussed in relation to the extant literature.

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AIDS Epidemic

Since 1981, there has been an alarming increase in the number of reported cases of Human Immunodeficiency Virus (HIV) infection, the virus that causes Acquired Immunodeficiency Syndrome (AIDS) in the United States. HIV/AIDS has consistently been a leading cause of death among adults ages 25-44 (Centers for Disease Control, 1995; Centers for Disease Control, 2002). The virus that causes AIDS is transmitted via

blood, semen, or vaginal fluids, and is most commonly transmitted during sexual activities or intravenous drug use (IVDU). Because HIV is transmitted in this way, appropriate behavior change can prevent further spread of the disease (Kalichman, 1996b). Unfortunately, individuals engaging in high-risk behaviors have been slow to make changes in their risky behavior patterns. For example, Kann, Kinchen, Williams, Ross, Lowry and Hill (1998) reported that among high school students who are engaging in intercourse, 43 % reported not using a condom during their last act of sexual intercourse.

Range of Intervention Studies

Since the beginning of the AIDS epidemic, researchers have been investigating ways to increase safer sexual behavior to help prevent the spread of HIV infection (Fisher & Fisher, 1992). These HIV prevention programs have targeted specific at-risk populations, as well as the general population, to attempt to identify effective strategies to slow the progression of the disease. Several different tactics have been developed that address these issues. Various topics such as knowledge, attitudes, and behavioral skills are emphasized.

Several programs have been developed using mass media, such as the "America Responds to AIDS" campaign, which included mailing out brochures from the Surgeon General and several public service announcements (PSA). Researchers measured the effectiveness through self-report survey information that was gathered to determine how many families read the brochure and if any knowledge was gained (Winett, Altman, & King, 1990). The results showed that approximately 50% of those surveyed had read the brochure, and some limited gains in general knowledge about HIV/AIDS were reported. Another major media campaign that was conducted in Australia reported limited success

as well. The “Grim Reaper” campaign was designed to promote behavior change by using shock tactics to induce fear of AIDS. Over five hundred Australian residents were interviewed before and after the campaign, and the results showed that there were no overall significant increases in knowledge about AIDS, or personal and social concern about AIDS (Rigby, Brown, Anagnostou, Ross, & Rosser, 1989).

Group training programs attempt to go beyond what can be accomplished by mass media campaigns alone. In many instances these interventions include programs to enhance behavioral skills, such as condom desensitization training (Smith & Dickson, 1993) and teaching the proper way to use condoms effectively (Kalichman, Sikkema, Kelly, & Bulto, 1995). These programs were designed to promote safer sexual behaviors among populations that were identified as engaging in risky behaviors such as intravenous drug users, gay/bisexuals and heterosexuals who are engaging in unprotected intercourse. Smith and Dickson (1993) created an intervention designed to create awareness of HIV risk factors and make female college students more comfortable with the use and negotiation of condoms. Techniques that were used included interactive sessions, modeling, and role-playing. Pre and post-intervention self-report questionnaires were used to assess condom use, attitudes about condoms, subjective norms about condom use (a person’s perception about what peers consider acceptable), perceived control of 11 condom related behaviors, intentions to use condoms, and AIDS knowledge. Results showed that following the program there was an immediate increase in knowledge about AIDS, more favorable attitudes about condoms, and increased intentions to use condoms after the intervention as compared to a control group, but this effect did not last to the two-month follow-up. There were no significant differences in subjective norms, perceived control, or self-reported condom use.

In a later study, Kalichman et al. (1995) used education and behavioral skills training to teach mentally ill adults how to properly use condoms. The group training included educational sessions, videotape presentations, and actual hands-on practice using condoms. Assessment of the subject's behavior change was through self-reported knowledge about AIDS and condom use and behavioral intention questionnaires. Compared to participants in the control group, participants in the prevention program demonstrated significantly improved knowledge scores as well as increased intentions to use condoms in the future.

A popular intervention strategy that can be used in group sessions is to try to change attitudes related to HIV infection. Videotapes have been a popular method of transmitting information to change AIDS-related attitudes because they are relatively easy and cost-efficient to administer (Gilliam & Seltzer, 1989; Kalichman, 1996b; Rhodes & Wolitski, 1989). This is due to the fact that videotapes are inexpensive and are an effective way of communicating information to several groups at different times while maintaining consistency across the groups. There have been mixed results in these types of programs. For example, Rhodes and Wolitski (1989) reported using videotapes to improve undergraduate students' AIDS-related knowledge and attitudes. The knowledge items tapped into student's awareness about HIV transmission and prevention, while the attitude items focused on personal susceptibility, perceived severity of the epidemic, perceived effectiveness of prevention methods, and desire for further HIV/AIDS information. The attitudes and knowledge were measured immediately before and after the intervention and again at a 4-6-week follow-up. Participants showed increased knowledge and attitude scores at both the immediate post-test and the follow-up. Another program used videotape presentations to promote condom use among patients at a

sexually transmitted disease clinic (Solomon & DeJong, 1989). Participants who saw the video scored higher on a knowledge test and had more favorable attitudes towards condom use than participants on a no-video waiting list, which demonstrated the effectiveness of the use of the video. Conversely, a similar intervention reported by Gilliam and Seltzer (1989) resulted in no significant changes in attitude or knowledge. The students in this program were randomly assigned to watch either an AIDS videotape or a first-aid video (to serve as a control). There were only slight differences reported between the two groups. In a comprehensive review of similar videotape interventions, Kalichman (1996b) concludes that although videotape interventions show some encouraging results at changing attitudes, the effects on behavior change have not yet been demonstrated. This is primarily because few interventions have actually targeted risk-reduction behaviors.

A tactic that may be useful in preventing the spread of HIV is one-on-one counseling (Bauman, 1993; Mandell, Vlahov, Latkin, Carran, Oziemkowska, & Reedt, 1994). This counseling may accompany HIV antibody testing as mandated by the Centers for Disease Control (CDC). The personalized nature of the counseling allows for a more thorough assessment of current risk-taking behaviors and can provide suggestions for safer alternatives. However, the effectiveness of one-on-one counseling is ambiguous. One program used peer educators to promote safer sexual behavior among undergraduate students (Bauman, 1993). This program was evaluated qualitatively through the use of journals that were kept by the peer educators about each interaction with the students. Although there were no objective evaluations of the program, the researchers reported promising results based on anecdotal data. In a similar one-on-one program that targeted intravenous drug users, participants were randomly assigned to either a one-on-one

intensive education session or a typical fifteen minute counseling session (i.e., pre-test counseling). The hour-long intensive session included videotaped interviews with HIV positive IV drug users, and interactive discussions about needle cleaning, and other protective behaviors. Each participant in the intensive session was required to sign a commitment to engage in HIV preventive behaviors. An evaluation of this program included pre- and 6-month post- test questionnaires about knowledge of AIDS, perceptions of AIDS, effectiveness of IVDU precautions, and risky behaviors. Results indicated that there were no differences between the two groups at baseline. Although there were some reductions in self-reported risky behaviors for both groups, there were no differences between the two groups at the 6-month follow-up.

Problems and Directions

In the years immediately following the identification of HIV, clinicians were scrambling to prevent further spread of the infection because there was no cure for the deadly disease. Due to the urgency of the situation, many interventions were implemented without evaluative measures in place. More recently, researchers have made an effort to evaluate the effectiveness of different types of programs (e.g., Lipson & Brown, 1991; Shulkin, Mayer, Wessel, Moor, Elder, & Franzini, 1991). Evaluations can be done through a pre-test post-test design to study changes in attitudes, knowledge, and/or risky behaviors (Shulkin et al., 1991). Evaluations of this type are important because it is necessary to identify which programs are effective in actually reducing risky behaviors. The programs that have no effect on risky behaviors need to be eliminated in order for the more effective programs to become more widespread. In addition, many of the recent programs that have had evaluations in place are only looking at short-term changes (i.e., Huszti, Clopton & Mason, 1989; Kalichman & Coley, 1995; Lipson & Brown, 1991). Changes that are measured in the 2-4 weeks following an intervention may not be indicative of long-term changes.

There are several issues that have been identified as problems with AIDS/HIV intervention studies. One problem is that some programs, such as the “America Responds to AIDS” campaign in 1987, were produced for mass distribution and were not very effective with most populations (see Winett, Altman, & King, 1990 for a review). Although these mass distribution programs are easy to administer and appear to be cost-effective, they are intended to get the attention of several different at-risk populations in one program. This makes it difficult for any one group to truly identify with the message being presented. In order for a program to effectively increase knowledge of AIDS and

consequently decrease risky sexual behaviors, it needs to be matched to the target population in terms of gender, age, ethnicity, and sexual orientation (Carey, Maisto, Kalichman, Forsyth, Wright, & Johnson 1997; Kalichman & Coley, 1995). A program that is more specific to the intended audience can be very effective. It is often very difficult to do this specific targeting while at the same time reaching thousands of people in their homes. This type of targeting must be done on a group-by-group basis.

An example of this kind of targeting was a recent study that was done to reduce the risk of HIV infection in a population of economically disadvantaged urban women (Carey et al. 1997). Researchers used focus groups and interviews to elicit responses from the target population to determine optimal intervention strategies. Among other things, the four-session program included a motivational enhancement component and behavioral skills training, conducted by trained therapists who were ethnically diverse, as well as a discussion of a videotaped interview of a local HIV positive woman. This intervention program allowed the participants to obtain appropriate information about AIDS from people with whom they could relate. An evaluation of the effectiveness of this targeted intervention indicated that women in the treatment group had higher HIV-related knowledge, and reported intentions to reduce unsafe or risky sexual behaviors as compared to participants who were placed on a waiting list that served as a control group.

An earlier study assessed the effects of culturally relevant videotapes (matched for gender and ethnicity of the target population) compared to an experimental condition in which the same message was presented and was targeted to African–American women, but was not matched for gender and ethnicity (Kalichman & Coley, 1995). The results showed that the three groups did not differ significantly in AIDS/HIV knowledge and intentions to use condoms. However, there were differences in intentions to get tested for

HIV infection. Participants in the gender-ethnicity-matched condition indicated more intention to get an HIV antibody test in the future. The results of these two studies suggest that targeting interventions to a specific population may be useful.

Another problem is that due to the sensitive nature of the behaviors being measured, it has been difficult to gather objective data on changes in behaviors (i.e. condom use, reduction in needle sharing) that may help reduce the risk of contracting HIV. There has been tremendous reliance on self-report data of both current levels of risky behavior and intentions to change behavior.

The Theory of Reasoned Action outlined by Ajzen and Fishbein (1980), suggests that behavioral intention is the first step to actually carrying out that behavior. Furthermore, these intentions are determined by a combination of attitudes about the behavior and social norms. Ajzen and Fishbein (1980) posit that behavioral intention is the best predictor of actual corresponding behavior. Thus, in lieu of objectively observing, behavioral intentions can be a proxy measure of actual sexual behavior.

There are problems associated with self-report data, such as behavioral intention, due to socially desirable responding, demand characteristics, and other forms of bias. For example, a study conducted by Ashworth, DuRant, Newman, and Gaillard (1992) was done to evaluate the effectiveness of an AIDS/HIV education program for high school students. One group of students was assigned to the intervention group and another similar group of adolescents served as the control group. The intervention was a 1-hour AIDS education program that included a video presentation followed by a discussion with two trained AIDS educators. A modified version of the CDC Health Risk Survey, that assesses variables such as perceived risk of acquiring AIDS and knowledge and attitudes about AIDS, was given before and after the intervention. At post-test, the

intervention group had increased knowledge, and lower levels of anxiety about contracting AIDS, but there were no differences in reported risky behavior. The authors endorsed the program cautiously because the only measures of effectiveness were self-reported knowledge and anxiety level. These studies suggest that interventions can be helpful in changing self-reported behavior, but does that mean that they are also effective in changing actual behavior? One way to make that determination is to measure objective indices of risky behavior.

One objective measure that has been reported frequently is participants' redemption of coupons for free condoms (Kalichman, Carey, & Johnson, 1996). It is presumed that participants who redeem coupons for free condoms are going to use them in future sexual encounters, thus increasing their AIDS preventive behavior.

HIV Antibody Testing

Several variables have been measured in an attempt to evaluate various HIV intervention programs, such as condom pick-up, and self-reports of condom use and needle exchanges. Another behavior that could help prevent the spread of HIV infection is HIV antibody testing. When HIV enters the body, there is a reaction of the immune system to fight the infection, creating antibodies that can be detected in the blood. HIV antibody testing is a procedure in which blood is drawn and tested for the presence of those antibodies that are specific to HIV infection (Kalichman, 1996a). In addition to self-reports of intention to be tested, actually getting the test could also be an objective measure to evaluate interventions that promote HIV antibody testing. Researchers could get objective data as to whether participants actually received an HIV test and whether they received the test result.

HIV antibody testing has been identified as an important step in preventing the

spread of HIV (Beardsell, 1994; Lyter, 1989). HIV antibody testing can be important in the fight against AIDS for several reasons. Being aware of one's HIV status (especially if the status is seropositive) can sometimes lead to increases in safer sexual behavior (Phillips & Coates, 1995). Unfortunately, the decrease in risky behaviors is not distributed evenly among the risk groups, but is greatest for homosexual men, and heterosexual couples who are tested together. Some individuals continue to engage in risky behaviors despite knowing that they are HIV positive. Nonetheless, those who are aware of their seropositive status can be better prepared to increase healthy lifestyle habits and begin treatment, both of which can substantially increase the quality of life (Osmond, Charlebois, Lang, Shiboski, & Moss, 1994). One added benefit of HIV antibody testing is that it is accompanied by one-on-one counseling as mandated by the CDC. During the pre- and post-test counseling that accompanies HIV antibody testing, a professional can assess the current level of risk-taking behaviors. Individualized attention can then be given to identify ways of protecting oneself as well as others. Thus, this counseling is beneficial to people who test both seropositive and seronegative (Des Jarlais & Friedman, 1988). Furthermore, counseling can help decrease other sexually transmitted diseases as well, because the sexual behaviors that prevent HIV transmission also help prevent the transmission of other STD's.

Despite the potential benefits associated with HIV antibody testing, there are personal costs associated with HIV antibody testing as well. First, an individual must identify him/her self as at risk by simply going to receive the test (Coates, Stall, Kegeles, Lo, Morin, & McKusick, 1988). There may be a stigma attached to that act alone, because the populations that are most frequently identified as being at-risk are gay/bisexuals and IV drug users. Second, HIV antibody testing can be very anxiety

provoking, because of the lengthy waiting period (2 weeks or more) between taking the test and getting the results (Simon, Weber, Ford, Cheng & Kerndt, 1996). It is possible that in order to avoid the anxiety over whether the test will return positive, people simply do not get tested. The fear that confidentiality will be violated is another reason many people choose not to get tested. If confidentiality is violated, there could be consequences associated with testing seropositive, such as discrimination, denial of jobs or health insurance and psychological stress (Myers, Orr, Locker & Jackson, 1993; Silvestre, Kingsley, Rinaldo, Witt, Lyter, & Valdiserri, 1993). Further, social relationships may suffer as a result of being tested.

Are there factors that can effectively predict whether someone will get an HIV test ? There are many theories about what factors promote behavior change.

Attitudes and Behavior Change

Attitudes are the way people generally feel about something or someone that ultimately may influence their behavior (Petty & Cacioppo, 1986). Historically attitudes have been given credit for predicting human behavior (Ajzen & Fishbein, 1980). In reality, attitudes are only one variable that affects behavior. For example, LaPiere (1934) provided evidence that one's stated attitude does not necessarily match overt behavior. In this study, a Chinese couple traveled through America with LaPiere, and visited 251 hotels and restaurants. This couple was refused service only once. In a follow-up by LaPiere six months later, over 90% of the establishments stated that they would not serve Chinese people. This was one of the first studies that demonstrated the inconsistency between attitudes and behavior.

In a similar way, researchers have examined the relation between attitudes and behavior related to HIV prevention. For undergraduate students, Bruce, Shrum, Trefethen

& Slovik, (1990) showed that while most students had generally positive attitudes about condoms, there were few students who reported using condoms. In a longitudinal study, Fisher and Misovich (1990) demonstrated that while college students' attitudes and knowledge about AIDS increased over a three-year time span (1986-1988), self-reported safer sexual behavior decreased during the same time period. However, the relation between attitudes and behavior is not always discrepant. Bruce and Reid (1998) demonstrated that tolerant attitudes towards people with AIDS are associated with participants choosing to donate food to an AIDS/HIV food bank rather than another charity.

Wilson, Jaccard, and Minkoff (1996) studied the relation between women's beliefs, attitudes, and intentions to get tested and actually having the HIV test done. The results suggested that the saliency of the attitudes at any given time. The attitude that is salient may change from one moment to the next. This may have an attenuating effect on the attitude-behavior relation. Although 56% of the women said they would or might be willing to get tested, only 12% actually followed through and had the test done. The participants were asked what beliefs were salient at the time they made the final decision about receiving the test. Several different answers were offered including: too busy, discrimination, stigmatization, and anxiety.

While the relation between attitudes and behavior is not always consistent, there are two factors that can affect the strength of the attitude-behavior relation. The first is the strength of the attitude (Ajzen & Fishbein, 1977). If a person has a strong attitude about some object or event, his/her behavior is more likely to reflect that attitude. The second factor is the specificity of the attitude. In order to correspond, the attitude and behavior need to be similar in level of specificity. As was previously mentioned, Bruce

and Reid (1998) found that there was a high correlation between very specific attitudes about people with AIDS and a behavior that was of similar specificity, donating food to a charity for people with AIDS. For the purposes of predicting HIV antibody testing behavior, attitudes about testing need to be evaluated rather than a more broad topic like attitudes about HIV in general

In addition, several other factors can affect a person's attitude towards HIV preventive behavior. First, people's attitudes toward HIV preventive behavior can be affected by whether or not they personally know anyone who is gay or HIV positive (Bruce & Reid, 1998; Walters, 1997). In addition, perceived vulnerability and perceived costs and benefits of performing the preventive behavior can affect one's attitude. The extent to which these factors play a role may very well depend on certain individual differences (Kalichman, Somlai, Adair, & Weir, 1996). Certain personality traits may enhance or attenuate the effectiveness of HIV interventions. For example, research has shown that self-efficacy (Wulfert & Wan, 1993), coping style (Millar & Millar, 1993), erotophobia (Kyes, 1990), sensation-seeking (Kalichman, Heckman, & Kelly, 1996), and self-esteem (Hollar & Snizek, 1996), correlate with the likelihood that a person engages in risky sexual behavior. (The influence of these individual differences will be discussed at length later.)

IMB Model of Behavior Change

Because interventions may be less effective when based on only logic and experience rather than formal theories (Fisher & Fisher, 1992), several researchers have developed models or theories that attempt to describe the mechanisms that appear to control behavior change. These theories are then used to guide future interventions and then their utility is tested. One such model is the information-motivation-behavioral skills

model (Fisher & Fisher, 1992). Although it was developed for HIV prevention, the basis of this model is highly generalizable to a variety of preventive health behaviors. As the name implies, the model proposes three fundamental determinants of behavior change. In order for effective behavior change to occur, a person must have adequate knowledge about the specific preventive behavior in question, motivation to perform the preventive behavior, and must also possess the behavioral skills necessary to perform the preventive behavior.

There has been no consistent link between knowledge alone and AIDS preventive behavior. Ajzen and Fishbein (1980) have suggested that in order for knowledge (like attitudes) to have an effect on behavior, the knowledge and behavior must be of similar content and at the same level of specificity. For example, it is unlikely that providing someone with general knowledge about HIV infection will result in an increase in condom use. A better scenario would involve education about how to use a condom to prevent HIV infection, and increased condom use may very well follow (e.g., Kalichman, Sikkema, Kelly, & Bulto, 1995). Fisher and Fisher (1992) further propose that the current multiple-choice type questionnaires for HIV knowledge that supply cued access to knowledge do not really tap into knowledge that is available in real-life situations, and thus are invalid measures of one's true knowledge. It is suggested that more open-ended questions may provide a more valid assessment of the knowledge-behavior relation. Thus, information is seen as a necessary, but not sufficient, factor in behavior change.

A second factor that Fisher and Fisher (1992) posit as necessary for behavior change is motivation to perform the behavior. A well-informed person must be motivated to initiate preventive behaviors. There are several factors that can affect this motivation. Based on Ajzen and Fishbein's (1980) Theory of Reasoned Action, changes in behavior

(or behavioral intention) are a function of one's attitude toward the behavior and social norms (the degree to which the preventive behavior is seen as accepted by one's peers). Individuals are more likely to be motivated to perform a behavior that they have a positive attitude about and that their peers see as "normal" or appropriate. In addition, perceived susceptibility and perceived costs and benefits of performing a behavior further influence one's motivation.

Once people are knowledgeable about what is necessary to prevent HIV and are motivated to perform the behavior, they must also demonstrate the third and final component, behavioral skills. Behavioral skills are the ability to perform the behaviors necessary to prevent HIV infection. Fisher and Fisher (1992) outline a hierarchy of behavioral skills that are involved in AIDS prevention. The hierarchy begins with behaviors such as self-acceptance of one's sexuality, acquisition of behaviorally relevant information, and negotiating AIDS prevention with a partner. This is followed by public prevention acts, such as purchasing condoms or HIV antibody testing, and lastly, social reinforcement between sexual partners for practicing these behaviors. Many of the intervention studies described earlier have focused on the behavioral skills aspect of prevention (i.e., Kalichman, Sikkema, Kelly, & Bulto, 1995; Smith & Dickson, 1993). In addition, according to self-efficacy theory, a person has to believe that he or she has the appropriate skills in order to make use of them (Bandura, 1986).

In closing, Fisher and Fisher (1992) outlined three steps that are necessary to apply the IMB model to AIDS/HIV interventions. First, the researcher must conduct elicitation research to determine the current level of information, motivation, and behavioral skills of the target population. Second, an intervention must be created that is specifically targeted to the needs of the population as identified in the elicitation

research. Third, a systematic evaluation must take place to determine if the intervention is effective and changes in risky behavior have actually been produced.

Persuasion

What is the most effective way to present information to promote behavior change? For years, researchers have been investigating this topic (Petty & Cacioppo, 1986). The elaboration likelihood model of persuasion (Petty & Cacioppo, 1986) suggests that there are two routes to effective persuasion. The central route is when a person carefully evaluates the message being presented, and makes a decision based solely on the merit of the argument. The less cognitive approach is the peripheral route. Decisions about messages using this approach are based more on cues, such as the credibility and trustworthiness of the source, or the mood aroused. Because people have neither the time nor the inclination to carefully evaluate every message that is presented, the peripheral route offers an alternative.

Another point to consider when evaluating the effects of different types of messages is the affective component. One emotional appeal that has been investigated in persuasion research is fear. However, the data concerning the effect of fear on persuasion are inconsistent (see Sternthal & Craig, 1974 for a review). Janis and Feshbach (1953) conducted a study to assess the effects of a fear message about dental hygiene in college students. The findings indicated an inverse relation between fear arousal and persuasion such that as the fear level increased, the persuasiveness of the message decreased (i.e. higher levels of fear were less effective in persuading participants). However, in a review of the effectiveness of fear appeals, Ray and Wilkie (1970) found that in several cases (i.e., smoking campaigns), as fear arousal increased effectiveness of the persuasion increased. In a major media campaign conducted in Australia, researchers examined the

effect of fear tactics on promoting safer sexual behaviors (Rigby et al., 1989). Residents were interviewed before and after television commercials were aired across the nation. There was very little effect of this campaign on AIDS concern or AIDS knowledge of the general public. Sternthal and Craig (1974) discussed the effects of fear arousing messages on persuasion based on a review of several studies, with topics including auto safety, tuberculosis, atomic bomb testing, dental hygiene and smoking. They concluded that moderate fear leads to the most effective persuasion as compared to high or low levels of fear arousal. However, fear messages are most effective when they contain specific recommendations about behaviors that can decrease the probability of harm (Sternthal & Craig, 1974). For example, Leventhal and Watts (1966) investigated the effects of a fear message about lung cancer on participants' willingness to have an x-ray taken and decrease smoking. There were three levels of fear, high, moderate, and low. The results indicate that participants in the high fear group showed less compliance to the suggested x-ray, but more compliance with the recommendation to decrease smoking. Thus, the recommendation to decrease smoking that provided participants with an opportunity to reduce harm was achieved more often by participants who had the highest arousal of fear. This suggests that when dealing with health related issues, fear arousal may increase the effectiveness of persuasive messages when promoting a behavior that provides the opportunity to reduce harm.

A person's perception of who is responsible for initiating health preventive behaviors is an important aspect of persuasive messages. An internal attribution suggests that it is the individuals' responsibility to initiate the behavior, while an external attribution suggests that it is someone else's responsibility. Rothman, Salovey, Turvey, and Fishkin (1993) demonstrated that a message that proposed an internal attribution is

more likely to enhance behavior change than one that focuses on external attributions. In other words, if the people hearing the message are led to believe that they are responsible for the behavior, they are more likely to be influenced by the message.

In an HIV-related example, Kalichman and Coley (1995) created an HIV preventive message that was targeted for African-American women. The message-framing condition emphasized potential losses associated with not seeking HIV antibody testing, with an emphasis on personal responsibility. The message was effective in promoting HIV antibody testing. Participants in the ethnicity-matched and gender-ethnicity-matched condition (control groups) indicated more intention to get an HIV antibody test in the future than did the participants in the message-framing condition. However, at a 2 week follow-up, over 60 % of the participants in the message-framing condition reported actually getting the test, while only 23% of the participants in the gender-ethnicity-matched condition and none of the participants in the ethnicity-matched condition reported having the test done.

Personality Variables

As discussed previously, an individual's personality type seems in itself to correlate with the effectiveness of interventions. Researchers have begun to investigate exactly how personality correlates with changes in risky sexual behavior (e.g., Franzini & Sideman, 1994; Kyes, 1990).

Hollar and Snizek (1996) examined the relation between self-esteem, knowledge about AIDS, and college students' risky sexual behavior. The results showed that students' risky sexual behavior is related to both knowledge and self-esteem. However, the nature of this relation depends on the type of sexual behavior in question. For "conventional" unsafe behaviors (i.e., unprotected vaginal intercourse), participants with

high self-esteem reported more risky behaviors. For more "unconventional" behaviors (i.e., anal intercourse), participants with high self-esteem reported fewer risky behaviors than participants with low or moderate self-esteem.

Another personality trait that may be beneficial in predicting health related risky behaviors is health locus of control. This construct, that was first delineated by Wallston, Wallston, Kaplan, and Maides (1976), is based on Rotter's (1966) construct of locus of control. Locus of control is a person's perception of how much control he/she has over the things that happen in his/her life (Rotter, 1966). Health locus of control is aimed specifically at heath related behaviors. Wallston, Maides, and Wallston (1976), demonstrated that scores on the health locus of control scale (HLC) could accurately predict which participants would seek out health information, with participants scoring high on the internal HLC seeking out significantly more information than participants scoring high on the external HLC.

Additional personality variables that are more specific to sexual behaviors have also been examined. A person's emotional response to sexual stimuli can be categorized on a continuum of responses with end-points of erotophobia (negative emotional responses) and erotophilia (positive emotional responses; Byrne, 1977). Although these responses are to some degree innate (Byrne, 1977), social learning can have an impact as well. The responses of a particular individual can fall at any point on the continuum, from predominantly positive to predominantly negative, or anywhere in between. Knowing where one falls on the erotophobia-erotophilia dimension may allow researchers to predict the extent to which an individual will seek out and retain sexual knowledge. For example, Fisher, Byrne, Edmunds, Miller, Kelley, and White (1979) conducted a study in which female undergraduate students responded to a series of questionnaires about

contraceptive use, attitudes about contraceptive use, seriousness of relationships, sexual opinion survey (a measure of erotophobia-erotophilia) and demographic variables. It was demonstrated that in addition to other non-personality variables (i.e. attitudes about contraceptives and demographic variables) erotophobia-erotophilia is a significant predictor of contraceptive behavior in female college students. That is, erotophilia (positive reactions to sexual stimuli) is associated with increased contraceptive use.

Sensation seeking is another construct that may be a valid predictor of HIV risk behavior. Zuckerman (1983) describes sensation seeking as a desire for novel, exciting, complex sensations that is so strong that one is willing to take risks to gain such experiences. This is a multi-faceted construct that includes several sub-categories such as thrill seeking, disinhibition, and boredom susceptibility. Kalichman and Rompa (1995) extrapolated from Zuckerman's original concept (and measurement scale) of sensation seeking to propose a more specific concept of sexual sensation seeking. This is similar to Zuckerman's idea, but includes additional items on the scale that are more specific to sexual activities. Sexual sensation seeking (as well as sexual compulsivity; defined as the insistent or repetitive urge to perform specific sexual acts in a methodical manner) has been shown to be a valid predictor of risky sexual behaviors in gay men (Kalichman & Rompa, 1995). In a later study (Kalichman, Heckman & Kelly, 1996), sensation seeking was found to account for a significant amount of the variance between substance use and risky sexual behavior. Two indices of risky sexual behavior were measured, frequency of unprotected anal intercourse and number of unprotected anal intercourse partners. In other words, when the participants' personality style is taken into consideration, substance use has little to offer in the way of explaining risky sexual behaviors.

Purpose

The purpose of the proposed study is to create and evaluate an intervention, based on the IMB model of behavior change, which will promote HIV antibody testing. College students have been the target of much research on HIV prevention (i.e., Ragon, Kittleson, & St. Piere, 1995; Smith & Dickson, 1993). It has been reported that the prevalence of HIV infections on college campuses nationwide is about 1 out of 500 students (Gayle et al., 1990). Although this is lower than that of the general population prevalence of 1 out of 300 (Centers for Disease Control, 1995), college students remain a population that needs to be targeted for interventions that promote safer sexual behaviors. Studies show that despite the increasing pervasiveness of HIV infections in the past ten years, the sexual activity of adolescents has been on the rise (Svenson, Carmel, & Varnhagen, 1997). Despite the fact that sexual relations are abundant on college campuses, the occurrence of preventive behaviors among this population remains lower than that of other at-risk populations (Fisher & Misovich, 1990). Specifically, Svenson, Carmel, and Varnhagen (1997) report that condom use among college students remains rather low, ranging from 10% to 66%, despite increased knowledge of the usefulness of condoms in preventing the spread of sexually transmitted diseases including HIV infection. Based on the above literature, college students will be the target population for the current research. Once the utility of the intervention has been established, the program may be expanded to include other at-risk populations.

It has been shown that both fear and internal attribution persuasive messages can work under the proper conditions, however the two have not been empirically tested against each other. The current research will examine the differential effectiveness of fear arousal and internal attribution messages. It is proposed that there will be differential effects of the interventions for participants due to individual personality differences. This

will help to identify the most effective intervention for each personality type, thereby increasing safer sexual behaviors among the college student population.

Specifically, it is hypothesized that after the intervention, participants in the two experimental conditions (fear & internal attribution) will have more positive attitudes towards HIV antibody testing, show more intention to receive an HIV test, and will actually receive more HIV antibody testing, than the participants in the two control conditions. It is further hypothesized that these effects may be mediated by individual differences. For example, I expect that, based on the personality literature herein reviewed, erotophilia, HLC, sensation-seeking and self-esteem should be predictive of intention to receive an HIV antibody test.

PHASE ONE: ELICITATION RESEARCH

Method

Participants

Participants were 24 (2 males and 22 females) introductory psychology students ages 17 – 32 ($\underline{M}$ = 20.13, $\underline{SD}$ = 2.13) at the University of North Carolina at Wilmington. The ethnic composition of the group was 71% Caucasian, 21% African-American, and 4% "other." The majority (62%) of the participants were sophomores, with 17% freshmen, 13% seniors, 4% juniors, and 4% endorsing "other." Twenty participants reported being sexually experienced and of these, 18 reported being heterosexual (90%). Eleven (46%) of the participants had received HIV antibody testing prior to participation in the study. Each student received course credit for his or her participation.

Measures

Participants were asked to complete a series of open-ended questions about the effectiveness of persuasive messages, sexual risk-taking and HIV antibody testing, as

well as the initial 82-item version of the HIV Antibody Testing Attitude Scale (HTAS; Boshamer, 1997).

The open-ended questions were designed to allow the participants to write as much as they could about particular issues concerning them with regard to HIV testing (e.g., What concerns or issues do you think most college students have about the HIV antibody test? Please list as many as you can think of. What concerns or issues would (did) you have about having the test done? Please list as many issues as you can; see Appendix A). There were also three persuasive message scenarios given. In each scenario, participants were given an example of a persuasive message and asked if they believed each of these scenarios would be effective, and if a similar scenario would be effective in promoting HIV antibody testing (see Appendix A).

The HIV Testing Attitude Scale (Boshamer & Bruce, 1999) is a Likert-type questionnaire (utilizing a 5-point scale ranging from "strongly agree" to "strongly disagree" for each item) that assesses attitudes about HIV antibody testing. The reported Cronbach's alpha for this scale is 0.88. The HTAS has been tested for known groups validity. Students reporting they have already been tested or are likely to get tested for HIV infection score significantly higher on this scale than those students who report they are not likely to get tested for HIV infection. The discriminant validity of this scale was demonstrated through the lack of a significant correlation between participants' HTAS scores and other reported behavior related to HIV transmission such as condom use or alcohol use during sexual intercourse (Boshamer & Bruce, 1999).

Procedure

Participants were tested in small groups. After completion of the questionnaires, participants were offered additional credit to remain for a 30-minute group discussion.

All of the students except one (96%) opted to stay for the discussion group. This discussion enabled students to expand on their written responses and discuss their responses with their peers. In order to prompt discussion, relevant issues were brought up by the experimenter (i.e., concerns about friends' opinions, confidentiality of testing procedures, on-campus testing sites, potential success of various emotional campaigns, and what questions the students had about HIV antibody testing). Discussants were asked to withhold their names to maintain anonymity. The information obtained from the discussions was used to determine students' current level of knowledge and concerns about HIV antibody testing. This information was used in conjunction with our laboratory's archival data and the current participants' responses to the HIV Antibody Testing Attitude Scale in order to assess specific needs and concerns of college students. The purpose of this elicitation research was to identify intervention tactics that would be appropriate for the target population.

Results

As shown in Table 1, the majority of participants endorsed (agreed that the persuasive message could be effective) the use of fear appeals, internal attribution, and celebrity endorsements for promoting safe sexual behavior (e.g., celebrity endorsements sexual behaviors in television advertisements) as well as other health related behaviors (e.g., breast self-exams, seat belt use).

In response to an open-ended question in which participants were asked to list other useful approaches to promote HIV antibody testing, a range of ideas was suggested including (in order of most frequently suggested): increase knowledge and awareness (29%), make the appeal more personal (17%), portray testing as easy to do (17%), use statistics (17%), distribute flyers for free testing (13%), encourage peer support for

Table 1

Number of Endorsements for each of the Scenarios for Persuasive Messages

Persuasive Message Scenario	n	%
1. Do you believe that seatbelt commercials that use fear tactics are effective in encouraging seatbelt use?	15	63
2. Do you believe a similar fear message would be useful in promoting HIV antibody testing?	12	50
3. Breast cancer commercials try to emphasize a woman's personal responsibility to promote monthly breast self-exams. Do you believe this is effective?	17	71
4. Do you think a similar personal responsibility message would be useful in promoting HIV antibody testing?	15	63
5. Many celebrities endorse safer sexual behaviors. Do you think this is an effective strategy for promoting safer sex among college students?	14	58
6. Do you think a celebrity message would be useful in promoting HIV antibody testing?	14	58

getting the HIV antibody test (8%), require mandatory classes or testing (4%), give extra credit for getting tested (4%), and provide free home testing kits (4%).

Two questions assessed students' concerns about HIV antibody testing (their own and other college students). Their responses were (in order of most frequently stated concerns): confidentiality (33%), accuracy (25%), waiting time (25%), fear of a positive result (21%), convenience (21%), mental agony (21%), cost (17%), what happens during the procedure (8%), pain (8%), and provision of condoms at testing site (4%).

Responses to particular concerns represented on the HTAS were examined. Any individual items in which the majority (over 75%) of responses were in the same direction (i.e., either strongly agree and agree or strongly disagree and disagree) were examined to determine if they identified a concern that might be common among college students. Analysis of the archival data, along with the current participants' responses from the HIV Antibody Testing Attitude Scale, indicated three items that were strongly endorsed by most students. These items reflected the scariness of HIV testing, concern about the lengthy waiting time for receiving results and showed a lack of perceived susceptibility to HIV infection. These findings were supported by the results obtained from the discussion group.

The results obtained in phase one of the study were used to help define the content of the scripts for the videotape intervention. Because all of the persuasive message scenarios were perceived to be effective in promoting safer sexual behaviors by the participants in the current sample, the two most practical methods were selected for the current intervention, *Fear Arousal* and *Internal Attribution* (i.e., we did not have any celebrities to star in the videotape). The third HIV videotape condition was an *Information Only* condition, which was used as a control (see below).

PHASE TWO: DESIGNING THE INTERVENTION

Based on the elicitation research conducted in phase one of this study, interventions were designed to promote HIV antibody testing among college students. Three videotaped presentations of information about HIV antibody testing were created. The videotapes were scripted in order to keep the general information constant on each tape (See Appendix B). At the beginning of each videotape, two college students were featured, discussing whether or not they would take advantage of the on-campus testing opportunities at their university that semester. Then two HIV counselors from the local health department answered questions about HIV antibody testing that were presented by an off-camera narrator. Five questions were addressed: 1) What exactly is the HIV test? 2) What kinds of things happen when you go to get the test? 3) What does a negative test mean? 4) What does a person do if the test turns out positive? 5) Who should be tested for HIV infection?

The *Information Only* videotape (7 minutes and 40 seconds) presented information about HIV antibody testing, with no affective component included. The affective component of the videotapes consisted of additions to the original *Information Only* script. The two experimental conditions were *Fear Arousal* and *Internal Attribution*. The *Information Only* script was modified to create a specific emotional tone. For the *Internal Attribution* videotape (7 minutes and 40 seconds), all of the third person pronouns were changed to second person pronouns (i.e., “He or she would need to be tested” changed to “You would need to be tested”). The *Internal Attribution* videotape was created to personalize the message for the viewer and urged them to take the responsibility of getting an HIV antibody test. For the *Fear Arousal* videotape (9 minutes and 10 seconds), many adjectives were added to emphasize the severity of the disease

(i.e., “disease” changed to “dangerous disease”). In addition to the *Fear Arousal*, in accordance with the literature herein reviewed, the videotape provided a way that viewers could do something to alleviate their fear, namely, receive an HIV antibody test. A commercial videotape about *CPR* (6 minutes and 45 seconds in length) was selected as a control condition. The *CPR* videotape was selected in order to have a health-related videotape unrelated to HIV or sexuality issues for comparison.

PHASE THREE: IMPLEMENTATION AND EVALUATION

Method

Participants

There were 163 introductory psychology students at the University of North Carolina at Wilmington (43 males and 120 females) who received course credit for volunteering in the study. Because the aim of the current study was to encourage HIV testing, 42 participants’ data were eliminated because the participants were sexually inexperienced and thus unlikely to consider an HIV test. Three females who reported exclusive homosexual behavior were considered unlikely to consider an HIV test as well and were eliminated accordingly. Another 16 participants’ data were excluded due to failure to complete all of the questionnaires. The remaining 102 students (29 males and 73 females) ranged in age from 17-24 ($\underline{M}$ = 18.69, $\underline{SD}$ = 1.21). The majority of participants (100% of males and 92% of females) reported engaging in sex with only members of the opposite gender. The other females (8%) reported bisexual behavior. The ethnic composition of the final sample was 88% Caucasian and 5% African-American (7% endorsed “other”). The reported year in school for these participants was 67% freshmen, 22% sophomores, 5% juniors, 6% seniors, and 1% “other.” Table 2 shows the description of participants in each condition.

Out of the final sample of 102 participants, 73 (23 males and 50 females) returned for a follow-up session at the end of the semester. The ethnic composition of these participants was 89% Caucasian, 4% African- American (7% endorsed “other”). The reported year in school for these participants was 62% freshmen, 25% sophomores, 4% juniors, 8% seniors, and 1% “other”. Table 3 shows the description of these participants in each condition.

Measures

Because attitudes and personality traits may be associated with behavior change, it was expected that sexuality and other related attitude and personality traits may relate to the immediate effectiveness of the videotapes. Thus, participants completed a battery of personality and attitude questionnaires described below. All of the questionnaires except one were presented in a randomized order across participants in order to eliminate possible order effects. The demographic questionnaire (which included questions about risky sexual behavior) was always presented last, to decrease the demand characteristics of the study.

The HIV Testing Attitude Scale (Boshamer & Bruce, 1999) is a 32-item Likert-type questionnaire with a 5-point scale ranging from “strongly agree” to “strongly disagree” that assesses participants’ attitudes about HIV antibody testing. Total scores may range from 0 – 100 with higher scores indicating more endorsement of HIV testing.

Table 2

Demographic Characteristics of Participants in each of the Four Videotape Conditions

		Videotape condition							
		Fear Arousal *n*=29		*Internal Attribution* *n*=27		*Information Only* *n*=24		*CPR* *n*=22	
Demographic variables		*n*	%	*n*	%	*n*	%	*n*	%
Gender									
	Males	10	(34)	8	(30)	3	(12)	8	(36)
	Females	19	(66)	19	(70)	21	(88)	14	(66)
Race									
	African-American	3	(10)	0	(0)	1	(4)	1	(5)
	Caucasian	24	(83)	24	(89)	23	(96)	19	(86)
	Other	2	(7)	3	(11)	0	(0)	2	(9)
Year in school									
	Freshmen	19	(66)	17	(63)	15	(64)	17	(77)
	Sophomore	6	(21)	7	(26)	6	(24)	3	(14)
	Junior	1	(3)	3	(11)	1	(4)	0	(0)
	Senior	3	(10)	0	(0)	1	(4)	2	(9)
	other	0	(0)	0	(0)	1	(4)	0	(0)
Sex. behavior									
	heterosexual	26	(90)	25	(93)	24	(100)	21	(95)

Table 3

Demographic Characteristics of Participants who Returned for the Follow-Up Session in each of the Four Videotape Conditions

		Videotape condition							
		Fear Arousal		*Internal Attribution*		*Information Only*		*CPR*	
		n=18		*n*=18		*n*=18		*n*=19	
Demographic variables		*n*	%	*n*	%	*n*	%	*n*	%
Gender									
	Males	8	(44)	6	(33)	2	(11)	7	(37)
	Females	10	(56)	12	(67)	16	(89)	12	(63)
Race									
	African-American	2	(11)	0	(0)	1	(6)	0	(0)
	Caucasian	14	(78)	17	(94)	17	(94)	17	(90)
	Other	2	(11)	1	(6)	0	(0)	2	(10)
Year in school									
	Freshmen	10	(56)	11	(61)	10	(56)	14	(74)
	Sophomore	4	(22)	5	(28)	6	(33)	3	(16)
	Junior	1	(6)	2	(11)	0	(0)	0	(0)
	Senior	3	(17)	0	(0)	1	(6)	2	(11)
	other	0	(0)	0	(0)	1	(6)	0	(0)
Sex. behavior									
	heterosexual	16	(89)	18	(100)	18	(100)	18	(95)

This instrument has been shown to be both reliable and valid when used with college students. The authors report Cronbach's alpha of 0.88 for the scale.

The Health Locus of Control Scale (Wallston et al., 1976) is an 11-item Likert-type questionnaire with a 6-point scale ranging from "strongly agree" to "strongly disagree" that assesses participants' locus of control with regard to health related matters. Total scores may range from 0 - 100 with higher scores indicating an expectancy towards an internal locus of control (rather than external). The authors report an internal reliability of 0.72 for this scale.

The Sexual Opinion Survey (Fisher, Byrne, White, & Kelley, 1988) was used to measure erotophobia-erotophilia. This is a 21-item Likert type questionnaire with a 5-point scale ranging from "strongly agree" to "strongly disagree". The questions on this scale attempt to quantify participants' emotional responses to sexually explicit stimuli. The potential range of scores on this scale is 0 - 100, with higher scores indicating a more positive emotional response to sexual stimuli. This scale has reported split-half reliability of 0.84.

Sensation seeking has been defined as a need for new and exciting experiences and a willingness to take chances to gain a variety of such experiences. Kalichman and Rompa (1995) developed a series of scales that tap into this trait. The Sexual Sensation Seeking Scale is an 11-item scale (scores may range from 0 - 100; higher scores indicate higher sensation-seeking), the Non-Sexual Experience Seeking Scale has 11 items (scores may range from 0 - 100; higher scores indicate higher sensation-seeking), and the Sexual Compulsivity Scale has 10 items (scores may range from 0 - 100; higher scores indicate higher sexual compulsivity). These items are all on a 5-point scale that ranges from "strongly agree" to "strongly disagree." The three scales have demonstrated good

internal consistency (Cronbach's alphas ranged from 0.79 - 0.86), as well as consistency over time (test-retest reliability ranged from 0.64 - 0.80).

Rosenberg's (1965) scale was used to measure self-esteem. This scale contains 10 items that tap into global feelings of self-worth. The scale uses a 5-point response range (total scores may range from 0 - 100). Higher scores on this scale indicate higher self-esteem. Fleming and Courtney (1984) reported a Cronbach's alpha of 0.88 for this measure.

The Health Practices subscale of the Health Self-Efficacy Scale (Becker, Stuifbergen, Oh, & Hall, 1993) was used to measure self-efficacy related to general health practices. This 7-item Likert-type scale uses a 5-point response scale ranging from 0 (not at all) to 4 (completely) in which respondents indicate the degree to which they are able to perform the health practice listed in each item (total scores may range from 0 – 100). Higher scores indicate higher self-esteem on this scale. The authors report an internal reliability of 0.72 for this scale.

Participants completed a demographic / behavioral intention questionnaire that was created for this study. This first part of the questionnaire contained demographic questions about participants' age, race, gender, year in school, sexual experience (yes or no) and sexual orientation. Further questions inquired about participants sexual behaviors to determine level of risk for HIV infection. Participants were asked to rate how often they use condoms on a scale of 1 (never) to 10 (always). Participants who had not ever had sex were asked to circle 0. Participants were also asked to rate how often they had used a needle to inject drugs that someone else had used on a scale of 1 (never) to 10 (always).

To measure self-reported knowledge about HIV, participants were asked to rate

their knowledge on a scale of 1 (poor) to 10 (excellent). Perceived susceptibility to HIV infection was measured by asking participants to rate how likely they are to get an HIV infection on a scale of 1 (definitely) to 10 (not at all). Participants were also asked if they knew anyone with an HIV infection or AIDS. Participants were asked to report if they had ever received an HIV test, how many HIV tests they had received, and the date of their most recent HIV test. Intention to receive an HIV test was measured with three items asking students to rate how likely they were to receive an HIV test that semester, in the next year, or anytime in the future.

In order to measure self-efficacy with regard to HIV testing (how capable the students felt with regard to performing specific tasks required to receive an HIV test) four detailed questions were asked. Students were asked to respond on a scale of 1 (very hard) to 10 (not very hard). The responses from these four questions were added together so that responses to a composite scale of "HIV self-efficacy" could range from 0 – 40. Higher scores indicate more self-efficacy with regard to performing the tasks necessary to receive an HIV test. Participants were asked how effectively they could persuade their partners to get an HIV test and were asked to respond on a scale of 1 (effectively) to 10 (ineffectively). Further, students were asked how hard it would be to continue to use condoms every time they have sex until both partners had received an HIV test. The responses were on a scale of 1 (very hard) to 10 (not hard at all). Two final questions about CPR were asked to try to reduce the demand characteristics of the study (See Appendix C).

The Marlowe-Crowne Social Desirability Scale was also administered (Crowne & Marlowe, 1960) in order to identify participants who were responding in a socially desirable manner when completing the self-report questionnaires. This 33-item scale uses

a true-false response format. Total scores can range from 0 – 33, with higher scores indicating more socially desirable responding. Reliability for this scale has been demonstrated in a number of studies with alpha's ranging from 0.73 - 0.88 (e.g., Crowne & Marlowe, 1960; Paulhus, 1984).

The effectiveness of the experimental videotapes at creating the desired affective response was examined using a modified version of the Positive Affect / Negative Affect Scale (PANAS; Watson, Clark, & Tellegen, 1988). The modified PANAS consisted of the original 20 PANAS items as well as four additional items (motivated, accountable, responsible, and reckless). These items were added to help measure the specific affective states that were targeted by the videotapes. The instructions of the PANAS ask the students to record the number that corresponds with the extent to which participants are currently feeling each adjective on a scale of 1 (slightly or not at all) to 5 (extremely). These instructions were modified for the current situation by adding "about HIV" or "about CPR" depending on which videotape was viewed. Cronbach's alphas range from 0.84 to 0.90 for the original PANAS scale.

Procedure

Participants were tested in small groups of 1 – 12 students. Each group was randomly assigned to one of the four intervention conditions (*Information Only*, *Fear Arousal*, *Internal Attribution*, and *CPR*; see Table 1). The distribution of males and females in each of the four conditions was kept as consistent as possible. Participants were given instructions to complete a series of personality and attitude questionnaires (Health Locus of Control, Self-Esteem, Self-Efficacy, Sensation-Seeking Scales, Sexual Opinion Survey, Social Desirability, and HTAS) as well as the demographic questionnaire. Instructions were given at the beginning of each session. The researcher

told participants that all data would remain anonymous, stressed the importance of completing all questions, and gave a brief overview of the procedure. All participants were informed of their right to leave the experiment at any time without penalty (none of the participants elected to leave any time during the experiment). The completed questionnaires were placed in an envelope and the participants waited in their seats for everyone in the group to finish. When everyone was finished, the videotaped intervention was presented. The intervention was followed by an immediate post-test of the demographic / behavioral intention and HTAS questionnaires. The participants remained as a group until everyone had completed the post-intervention questions. Instructions were then given about the procedure for the follow-up sessions (described below) and each participant signed up for a convenient time to return. Before leaving the testing area, all participants were given information about HIV antibody testing opportunities on campus and in the surrounding area, as well as a coupon (see Appendix D) to turn in to the HIV counselors if they went to receive an HIV antibody test during the semester.

To test whether the videotape manipulation had the desired affective component, participants completed a modified version of the PANAS immediately before and immediately after watching the video (The PANAS was always presented last in the pre-intervention packet and first in the post-intervention packet). In order to be consistent, participants in all four videotape conditions (both HIV and CPR) completed the PANAS.

The follow-up sessions were scheduled 4 – 8 weeks after the original testing session. Follow-up sessions were approximately 15 minutes long. Participants were tested in groups of 1 – 33, depending upon the number of students who signed up for each session. Each participant completed a packet of questionnaires containing the demographic / behavioral intention and the HTAS questionnaires. Questions about

intention to receive HIV antibody testing during the semester on the demographic questionnaire were changed slightly to allow the participant an opportunity to report actual HIV antibody testing (See Appendix E). Across the three time periods, participants were identified only with a random identification number that they created during the first testing session.

The New Hanover County Health Department, in conjunction with Coastal Horizons Center Inc., conducted HIV antibody testing on campus twice during the semester. This allowed the participants a convenient opportunity to receive an HIV antibody test if they chose to do so (forty-two participants were in the study prior to the first on-campus testing session and 93 prior to the second on-campus testing session). Testing was also available free of charge at the New Hanover County Health Department. A numerical coding system based on the random identification numbers was used to obtain objective data as to which participants actually received an HIV test. This determined which participants in each group received HIV antibody testing while maintaining the anonymity of the participants. No information about the participants' HIV status was revealed to the researchers.

Data Analysis

To check for affective response to the videotapes, a within subjects analysis of variance was conducted to examine differences for each adjective immediately before and after the participants watched the assigned videotape.

To determine the effects of watching the assigned videotapes, several dependent measures were recorded. These include: HTAS scores (0 – 100 scale), self-reported HIV knowledge and susceptibility to HIV (0 – 10 scale), self-reported intention to receive an HIV test during the current semester, during the current year, or anytime in the future

(each on a 0 – 10 scale), self-reported HIV self-efficacy (0 – 40 scale), self-reported self-efficacy with regard to persuading a partner to get HIV testing and using condoms until both partners are tested (each on a 0 – 10 scale), and two control questions about CPR self-efficacy and intention to take a CPR class (each on a 0 – 10 scale).

Mixed design analyses of variance were used to examine the differences among the means of the dependent variables. The within group variable was time (before and after the videotape and a follow-up session). The between groups variable was the videotape condition (*Information Only*, *Fear Arousal*, *Internal Attribution*, and *CPR).* Because there were only 73 participants at the follow-up session, the data were analyzed twice. First, data were analyzed with a two-way ANOVA over 2 time periods (102 participants), and then again with a three-way ANOVA over 3 time periods (73 participants). Significant results were further examined using a test of simple main effects followed by Fisher's LSD post hoc test.

The data from the personality measures were analyzed using a separate stepwise multiple regression for each videotape condition. All of the personality measures were entered into the model as predictors, using intention to be tested during the current year as the criterion.

Due to having multiple dependent variables, an alpha level of .01 was used throughout the study. This was done to adjust for the probability of a Type 1 error, while allowing sufficient power to detect any differences.

Results

Affective Response to the Videotapes

Descriptive statistics for the adjectives on the modified PANAS are presented in Tables 4 through 7. Specific results from the inferential statistics are also presented in

Appendices 4 through 7.

As evident in Table 4, participants viewing the *CPR* videotape showed a number of significant changes in affect about HIV. Thus, changes in affect different from those induced by the *CPR* control videotape and thus considered as baseline or chance response to any manipulation were considered. Viewing the *CPR* videotape resulted in significant decreases in the adjectives “nervous”, “distressed”, “motivated”, “strong”, “inspired”, “excited”, and “active”.

As apparent in Table 5, viewing the *Information Only* videotape was specifically associated with a significant decrease in the adjectives “responsible”, and “accountable” and an increase in the adjective “afraid”. This is a different pattern of responses than was evident in the *CPR* control condition. On the other hand, participants viewing the *Fear Arousal* videotape reported significant increases for the adjectives “alert”, “afraid”, and “upset” and “enthusiastic”(see Table 6). There were no significant changes in the ratings of the adjectives in the *Internal Attribution* videotape condition (see Table 7).

Table 4

Statistics of the PANAS adjectives for the *CPR* Control Videotape

Adjectives	**Mean before**	***SD* before**	**Mean after**	***SD* after**	***df***	***F***	***p***
irritable	3.32	.99	2.64	1.26	1,21	5.54	> .01
nervous	2.41	1.05	1.91	1.11	1,21	8.56	.0081
interested	1.18	.50	1.27	.55	1,21	.49	> .01
distressed	2.73	1.20	1.86	1.28	1,21	8.49	.0083
motivated	2.27	1.12	1.77	.92	1,21	8.56	.0081
strong	2.05	1.21	1.32	.64	1,21	9.27	.0062
alert	1.54	1.06	1.50	.96	1,21	.14	> .01
responsible	2.86	1.32	2.23	1.27	1,21	6.91	> .01
afraid	1.55	.86	1.55	.92	1,21	0.00	> .01
scared	1.64	.95	1.32	.84	1,21	4.34	> .01
hostile	1.23	.43	1.23	.53	1,21	0.00	> .01
jittery	1.45	1.18	1.18	.86	1,21	2.10	> .01
accountable	2.00	1.15	1.41	.96	1,21	6.37	> .01
inspired	3.23	1.15	1.91	1.15	1,21	20.70	.0002
determined	1.36	.79	1.50	1.01	1,21	1.00	> .01
upset	1.86	1.08	1.50	1.01	1,21	5.51	> .01
excited	2.50	1.43	1.68	.99	1,21	8.30	.0090
guilty	2.68	1.21	2.18	1.22	1,21	3.92	> .01
enthusiastic	1.91	1.06	1.59	1.01	1,21	2.79	> .01
proud	1.45	.80	1.23	.69	1,21	1.72	> .01
ashamed	2.72	1.20	2.00	1.11	1,21	6.72	> .01
reckless	2.00	1.23	1.64	1.29	1,21	4.05	> .01
attentive	1.55	.67	1.27	.55	1,21	2.39	> .01
active	2.77	1.34	2.00	1.23	1,21	12.62	.0019

Table 5

Statistics of the PANAS adjectives for the *Information Only* Videotape

Adjectives	**Mean before**	***SD* before**	**Mean after**	***SD* after**	***df***	***F***	***p***
irritable	3.58	1.06	3.32	.99	1,23	.52	> .01
nervous	2.75	1.54	2.41	1.05	1,23	2.76	> .01
interested	1.38	.71	1.18	.50	1,23	4.29	> .01
distressed	3.08	1.50	2.73	1.20	1,23	12.55	.0017
motivated	2.38	1.06	2.27	1.12	1,23	.75	> .01
strong	2.75	1.15	2.05	1.21	1,23	.05	> .01
alert	1.58	1.06	1.55	1.06	1,23	.79	> .01
responsible	3.25	1.07	2.86	1.32	1,23	14.50	.0009
afraid	1.29	.75	1.55	.86	1,23	10.83	.0032
scared	1.67	.87	1.64	.95	1,23	4.83	> .01
hostile	1.42	.83	1.23	.43	1,23	3.01	> .01
jittery	1.25	.74	1.45	1.18	1,23	2.38	> .01
accountable	2.13	1.03	2.00	1.15	1,23	11.60	.0024
inspired	3.71	.90	3.23	1.15	1,23	.71	> .01
determined	1.50	.83	1.36	.79	1,23	.11	> .01
upset	1.71	1.00	1.86	1.08	1,23	5.79	> .01
excited	2.42	1.56	2.50	1.43	1,23	1.45	> .01
guilty	2.96	1.16	2.68	1.21	1,23	6.27	> .01
enthusiastic	2.42	1.28	1.91	1.06	1,23	.04	> .01
proud	1.58	1.14	1.45	.80	1,23	3.44	> .01
ashamed	3.21	.98	2.73	1.20	1,23	.90	> .01
reckless	2.38	1.28	2.00	1.23	1,23	6.05	> .01
attentive	2.08	1.02	1.55	.67	1,23	.08	> .01
active	3.29	1.33	2.77	1.34	1,23	8.95	.0065

Table 6

Statistics of the PANAS adjectives for the *Fear Arousal* Videotape

Adjectives	**Mean before**	***SD* before**	**Mean after**	***SD* after**	***df***	***F***	***p***
irritable	3.52	.87	3.90	.98	1,28	4.35	> .01
nervous	2.41	1.35	2.66	1.34	1,28	1.23	> .01
interested	1.28	.70	1.28	.59	1,28	0.00	> .01
distressed	2.79	1.52	2.00	1.13	1,28	9.33	.0049
motivated	2.31	1.23	2.79	1.37	1,28	4.18	> .01
strong	2.62	1.40	2.76	1.33	1,28	.34	> .01
alert	1.31	.76	1.72	.96	1,28	8.16	.0080
responsible	3.28	1.31	2.90	1.29	1,28	2.30	> .01
afraid	1.34	.90	1.83	1.20	1,28	10.98	.0026
scared	2.00	1.34	1.66	1.01	1,28	2.50	> .01
hostile	1.28	.53	1.45	.83	1,28	1.50	> .01
jittery	1.24	.64	1.41	.91	1,28	2.97	> .01
accountable	1.97	1.32	1.72	1.03	1,28	.92	> .01
inspired	3.51	1.09	3.79	1.05	1,28	3.12	> .01
determined	1.38	.82	1.55	.95	1,28	1.50	> .01
upset	1.66	1.08	2.14	1.16	1,28	8.91	.0058
excited	2.28	1.53	2.72	1.33	1,28	3.46	> .01
guilty	2.56	1.48	2.83	1.51	1,28	2.84	> .01
enthusiastic	2.03	1.30	2.66	1.32	1,28	10.15	.0035
proud	1.17	.54	1.38	.86	1,28	2.72	> .01
ashamed	3.14	1.22	3.52	1.27	1,28	3.79	> .01
reckless	2.03	1.38	2.03	1.45	1,28	0.00	> .01
attentive	1.97	1.27	2.07	1.13	1,28	.46	> .01
active	3.31	1.47	3.03	1.38	1,28	1.48	> .01

Table 7

Statistics of the PANAS adjectives for the *Internal Attribution* Videotape

Adjectives	**Mean before**	***SD* before**	**Mean after**	***SD* after**	***df***	***F***	***p***
irritable	3.26	1.02	3.30	.99	1,26	.05	> .01
nervous	2.37	1.18	1.96	.81	1,26	3.58	> .01
interested	1.33	.88	1.30	.82	1,26	.19	> .01
distressed	2.63	1.42	2.04	1.02	1,26	6.40	> .01
motivated	2.11	1.25	2.15	1.13	1,26	.03	> .01
strong	2.44	1.15	2.26	1.23	1,26	.67	> .01
alert	1.44	.80	1.67	.92	1,26	2.74	> .01
responsible	2.93	1.27	2.70	1.10	1,26	.95	> .01
afraid	1.41	1.04	2.04	1.26	1,26	6.01	> .01
scared	1.81	1.27	1.33	.68	1,26	3.34	> .01
hostile	1.19	.56	1.22	.58	1,26	.09	> .01
jittery	1.33	.88	1.22	.64	1,26	3.25	> .01
accountable	1.96	1.26	1.33	.68	1,26	7.27	> .01
inspired	3.33	1.14	3.19	1.08	1,26	.39	> .01
determined	1.44	.85	1.44	.75	1,26	0.00	> .01
upset	1.52	.89	1.89	1.05	1,26	4.32	> .01
excited	2.85	1.79	3.04	1.29	1,26	.48	> .01
guilty	2.41	1.15	2.48	1.22	1,26	.10	> .01
enthusiastic	2.11	1.42	2.00	1.14	1,26	.30	> .01
proud	1.30	.82	1.56	.97	1,26	2.75	> .01
ashamed	3.00	1.41	2.70	1.14	1,26	1.56	> .01
reckless	1.59	.84	1.81	.97	1,26	4.00	> .01
attentive	1.59	1.12	1.81	1.00	1,26	2.36	> .01
active	2.96	1.37	2.67	1.21	1,26	1.95	> .01

Thus, it appears that having participants merely rate feelings about HIV twice results in significant decreases in the adjectives “nervous”, “distressed”, “motivated”, “strong”, “inspired”, “excited”, and “active”. However, when participants view an HIV related videotape there were no significant decreases in “nervous, “motivated”, “strong”, “inspired”, and “excited”. The decrease in the ratings of the adjective “distressed” was seen in all videotape conditions except for the *Internal Attribution* videotape condition. Furthermore, the decrease in the adjective “active” that was seen in the CPR videotape condition remained for the *Information Only* videotape condition.

The response to the *Fear Arousal* videotape was different from all other tapes with an increase in the adjectives “alert”, “upset”, and “enthusiastic”. The response to the *Information Only* and the *Fear Arousal* were similar in that both show increases in the adjective “afraid”. However, participants viewing the *Information Only* videotape also report a decrease in “responsible” and “accountable” not seen with the *Fear Arousal* videotape.

Overall, there were interesting emotional changes elicited by the different videotapes. Viewing the *Fear Arousal* videotape was associated with heightened enthusiasm, alertness, and feeling upset, not seen with the other videotape conditions. Conversely, the decreases observed in participants in the control videotape condition did not remain for those who viewed the *Internal Attribution* videotape.

Immediate effects of the videotapes

Table 8 presents the descriptive statistics for the dependent variables that were examined before and after the videotape presentation. Mixed design 2 (time) X 4

Table 8

Means (and Standard Deviations) for each of the Dependent Variables Before and After each Videotape Presentation

Dependent Variables	*CPR*		*Information Only*		*Fear Arousal*		*Internal Attribution*	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1. HTAS scores	68.6 (10.3)	68.4 (8.8)	73.1 (9.8)	74.4 (9.2)	70.6 (8.4)	72.8 (8.7)	68.6 (11.3)	70.6 (10.0)
2. HIV Knowledge	7.3 (1.8)	7.6 (1.7)	7.6 (1.7)	8.1 (1.5)	6.8 (1.6)	7.2 (1.9)	7.2 (2.0)	7.7 (1.8)
3. Susceptibility to HIV	8.1 (1.5)	7.9 (2.1)	8.2 (2.2)	8.8 (1.3)	8.9 (1.0)	7.8 (2.0)	8.7 (1.8)	8.4 (2.0)
4. Intention to be tested this semester	2.7 (2.3)	3.5 (2.7)	4.3 (3.2)	5.3 (2.7)	3.1 (3.0)	4.9 (3.4)	3.7 (3.3)	4.5 (3.4)
5. Intention to be tested this year	3.8 (2.6)	3.9 (2.8)	4.8 (3.2)	6.2 (3.2)	4.2 (2.8)	6.1 (3.2)	4.1 (3.3)	5.0 (3.4)
6. Intention to ever be tested in the future	5.5 (3.3)	5.1 (3.2)	6.8 (3.3)	7.6 (3.0)	6.3 (2.9)	7.5 (2.8)	5.6 (3.3)	6.3 (3.4)
7. Total HIV self-efficacy	31.4 (6.4)	31.8 (6.0)	36.0 (5.6)	38.3 (3.3)	34.1 (7.6)	37.5 (3.7)	29.5 (9.4)	32.5 (9.4)
8. Could you persuade your partner to get an HIV test?	7.4 (2.4)	7.5 (2.6)	8.0 (2.3)	8.5 (2.2)	7.6 (2.6)	7.0 (2.9)	7.7 (2.1)	7.9 (2.4)
9. Could you consistently use condoms until both of you are tested for HIV?	8.0 (2.9)	7.6 (3.0)	8.2 (2.5)	8.7 (2.1)	7.6 (3.1)	8.6 (2.5)	8.7 (2.5)	9.0 (2.3)
10. How hard would it be to take a *CPR* class?	8.2 (2.7)	8.1 (2.1)	9.0 (2.1)	9.0 (2.0)	8.3 (2.8)	9.0 (2.2)	8.1 (2.7)	8.0 (2.5)
11. How likely are you to take a *CPR* class this semester?	3.5 (2.9)	3.7 (2.8)	3.2 (2.6)	3.7 (2.5)	4.3 (3.5)	4.1 (3.1)	3.1 (2.4)	3.4 (2.6)

(videotape condition) analyses of variance were used to further examine the differences among the means.

Attitudes about HIV testing.

ANOVA indicated that there was a significant main effect of time on HTAS scores [F (1, 98) = 10.18, $p < 0.0019$], such that participants' attitudes about HIV antibody testing were higher (more positive) immediately after the intervention, regardless of videotape condition. There was no main effect of condition on HTAS scores [F (3, 98) = 1.45, $p > 0.05$] and no interaction between time and condition on HTAS scores [F (3, 98) = 1.64, $p > 0.05$].

HIV knowledge.

ANOVA indicated that there was a significant main effect of time on reported HIV knowledge [F (1, 98) = 12.78, $p < 0.0005$], such that participants' self-reported knowledge about HIV antibody testing was higher after the intervention, regardless of videotape condition. There was no main effect of condition on reported HIV knowledge [F (3, 98) = 1.24, $p > 0.05$], and no interaction between time and condition on reported HIV knowledge [F (3, 98) = .08, $p > 0.05$].

Susceptibility to HIV infection.

ANOVA indicated that there was no main effect of time [F (1, 98) = 2.26, $p > 0.05$] and there was no main effect of condition on reported susceptibility to HIV infection [F (3, 98) = .54, $p > 0.05$]. There was a significant interaction between time and condition on reported susceptibility to HIV infection [F (3, 98) = 3.93, $p < 0.0108$]. Tests of simple main effects indicated that for participants in the *Information Only*, *Internal Attribution*, and *CPR* conditions, there was no effect of time on reported susceptibility to HIV infection ($p > 0.05$). Unexpectedly, participants in the *Fear Arousal* condition

reported significantly lower susceptibility to HIV infection after the intervention ($p < 0.05$).

Behavioral intention measures.

ANOVA indicated that there was a significant main effect of time on reported intention to be tested for HIV infection in the current semester [$F (1, 98) = 28.48$, $p < 0.0001$], such that participants' reported intention to be tested for HIV infection that semester was higher (more likely to get tested) after the intervention, regardless of videotape condition. There was no main effect of condition [$F (3, 98) = 1.32$, $p > 0.05$] and no interaction between time and condition on reported intention to be tested for HIV infection that semester [$F (3, 98) = 1.38$, $p > 0.05$].

ANOVA indicated that there was a significant main effect of time [$F (1, 98) = 24.72$, $p < 0.0001$]; however, there was no main effect of condition on reported intention to be tested for HIV infection within the year [$F (3, 98) = 1.50$, $p > 0.05$]. There was not a significant interaction between time and condition on reported intention to be tested for HIV infection within the next year [$F (3, 98) = 2.66$, $p >0.05$].

Similarly, ANOVA indicated that there was a significant main effect of time [$F (1, 98) = 12.11$, $p < 0.0007$]; but no main effect of condition on reported intention to be tested for HIV infection sometime in the future [$F (3, 98) = 1.95$, $p > 0.05$]. There was not a significant interaction between time and condition on reported intention to be tested for HIV infection sometime in the future [$F (3, 98) = 3.55$, $p > 0.01$].

Self-efficacy measures.

ANOVA indicated that there was a significant main effect of time on HIV antibody testing self-efficacy [F (1, 96) = 26.05, $p < 0.0001$], such that participants' self-efficacy regarding HIV antibody testing was higher after the intervention, regardless of videotape condition. There was also a significant main effect of condition on HIV antibody testing self-efficacy [F (3, 98) = 5.60, $p < 0.0014$]. Participants in the *Internal Attribution* condition reported similar self-efficacy ratings to participants in the *CPR* condition ($p < 0.05$). Participants in the *Fear Arousal* condition reported significantly higher self-efficacy ratings than both the *Internal Attribution* and *CPR* conditions ($p < 0.05$). Participants in the *Information Only* condition reported the highest self-efficacy ($p < 0.05$). There was no interaction between time and condition on HIV antibody testing self-efficacy [F (3, 96) = 1.92, $p > 0.05$].

ANOVA indicated that there was no main effect of time, [F (1, 96) = .16, $p > 0.05$], no main effect of condition [F (3, 98) = .78, $p > 0.05$], and no interaction between time and condition [F (3, 96) = 1.33, $p > 0.05$] on self-efficacy regarding persuading your partner to get an HIV antibody test.

ANOVA indicated that there was a significant main effect of time on self-efficacy regarding using condoms until both partners get an HIV antibody test, [F (1, 96) = 9.01, $p < 0.0034$], such that participants reported higher self-efficacy after the intervention. There was no main effect of condition on self-efficacy regarding using condoms until both partners get an HIV antibody test [F (3, 98) = .75, $p > 0.05$], There was a significant interaction between time and condition [F (3, 96) = 4.13, $p < 0.0084$] on self-efficacy regarding using condoms until both partners get an HIV antibody test. Tests of simple main effects indicated that participants in the *Information Only* and *Internal Attribution*

conditions showed no difference in self-efficacy scores after the intervention ($p > 0.05$). Participants in the *Fear Arousal* condition reported higher self efficacy after the intervention, whereas participants in the *CPR* control condition reported lower self-efficacy after the intervention ($p < 0.05$).

Control measures (CPR items).

ANOVA indicated that there was no main effect of time [F (1, 94) = .65, $p > 0.05$], no main effect of condition [F (3, 96) = .91, $p > 0.05$], and no interaction between time and condition [F (3, 94) = .80, $p > 0.05$] on self-efficacy regarding taking a *CPR* class. ANOVA indicated that there was no main effect of time [F (1, 94) = 2.46, $p > 0.05$], no main effect of condition [F (3, 96) = .57, $p > 0.05$], and no interaction between time and condition [F (3, 94) = 1.17, $p > 0.05$] on intention to take a *CPR* class that semester.

Long-term effects of the videotapes

Since not all subjects returned for the follow-up sessions, separate analyses were done to examine long-term effects. Table 9 presents the descriptive statistics for each of the dependent variables that were examined before and after the videotape presentation and at the follow-up session. Mixed design 3 (time) X 4 (condition) analyses of variance were used to examine the differences among the means. Overall, the long-term effects were generally similar to those found immediately following the videotape presentation.

Attitudes about HIV testing.

ANOVA indicated that there was a significant main effect of time on HTAS scores [F (2, 138) = 19.10, $p < 0.0001$]. Participants HTAS scores increased steadilyTable 9

Means (and SD) for each of the Dependent Variables Before and After the Videotape and at the Follow-up Session

	CPR			*Information Only*			*Fear Arousal*		*I*
	Pre	Post	Follow	Pre	Post	Follow	Pre	Post	Fo
1. HTAS scores	67.8 (10.5)	68.1 (8.9)	71.6 (10.3)	71.4 (9.6)	74.00 (9.4)	77.0 (10.9)	70.5 (8.9)	72.0 (8.4)	(
2. HIV Knowledge	7.1 (1.9)	7.5 (1.8)	7.4 (1.6)	7.8 (1.6)	8.2 (1.4)	7.9 (1.3)	7.2 (1.4)	7.3 (1.8)	
3. Susceptibility to HIV	7.9 (1.5)	7.7 (2.3)	8.0 (1.6)	8.7 (1.5)	8.6 (1.4)	8.4 (1.6)	8.7 (1.2)	8.1 (1.6)	
4. Intention to be tested this semester	2.9 (2.4)	3.7 (2.9)	N / A	4.2 (3.1)	5.4 (2.7)	N / A	2.2 (1.9)	3.7 (3.0)	
5. Intention to be tested this year	3.9 (2.6)	4.1 (2.9)	5.1 (2.9)	4.8 (3.1)	6.4 (3.1)	6.2 (3.1)	3.8 (2.1)	5.5 (3.0)	
6. Intention to ever be tested in the future	5.6 (3.3)	5.2 (3.3)	6.9 (2.8)	6.4 (3.5)	7.3 (3.1)	7.8 (2.8)	6.7 (25)	7.7 (2.6)	
7. Total HIV self-efficacy	30.7 (6.5)	31.0 (6.1)	33.8 (5.0)	35.7 (6.1)	38.3 (3.1)	38.7 (2.5)	347 (6.6	37.4 (3.9)	
8. Could you persuade your partner to get an HIV test?	7.3 (2.4)	7.3 (2.7)	7.3 (3.0)	7.9 (2.3)	8.5 (2.2)	7.8 (2.6)	7.7 (2.1)	7.0 (2.9)	
9. Could you consistently use condoms until both of you are tested for HIV?	7.6 (3.0)	7.4 (3.2)	7.9 (3.1)	8.3 (2.4)	8.9 (2.0)	9.1 (1.4)	7.2 (3.5	8.2 (3.0)	
10. How hard would it be to take a CPR class?	8.1 (2.8)	8.1 (2.2)	8.2 (2.0)	9.3 (1.1)	8.9 (2.2)	9.2 (1.3)	8.2 (2.9	9.2 (2.0)	
11. How likely are you to take a CPR class this semester?	3.7 (3.0)	3.9 (2.9)	3.8 (2.7)	3.3 (2.8)	3.9 (2.6)	4.4 (2.5)	3.5 (3.4	3.7 (2.9)	

over time, such that participants' attitudes about HIV antibody testing were lowest before the videotape, higher (more positive) immediately after the videotape, and highest at the follow-up session, regardless of videotape condition (Tukey's HSD, $p < 0.05$). There was no main effect of condition on HTAS scores [F (3, 69) = 1.26, $p > 0.05$] and no interaction between time and condition on HTAS scores [F (6, 138) = .36, $p > 0.05$].

HIV knowledge.

ANOVA indicated that there was no main effect of time on reported HIV knowledge [F (2, 138) = 2.76, $p > 0.05$]. There was also no main effect of condition on reported HIV knowledge [F (3, 69) = .86, $p > 0.05$], and no interaction between time and condition on reported HIV knowledge [F (6, 138) = .91, $p > 0.05$].

Susceptibility to HIV infection.

ANOVA indicated that there was a significant main effect of time on reported susceptibility to HIV infection [F (2, 138) = 3.34, $p < 0.04$]. Participants reported higher

other (Tukey's HSD, $p > 0.05$). There was no main effect of condition [F (3, 69) = 1.69, $p > 0.05$] and no interaction between time and condition on reported susceptibility to HIV infection [F (6, 138) = .95, $p > 0.05$].

HIV testing.

HIV testing was tracked for all study participants. Unfortunately, only 6 participants actually received an HIV test during the study period. This did not allow for any meaningful statistical analyses. The participants who received an HIV antibody test were relatively evenly distributed among the videotape conditions. Of those who were tested, one participant viewed the *Information Only* videotape, two viewed the *Fear Arousal* videotape, one viewed the *Internal Attribution* videotape, and two viewed the *CPR* tape.

Behavioral intention measures.

ANOVA indicated that there was a significant main effect of time on reported intention to be tested for HIV infection within the year [F (2, 138) = 18.08, $p < 0.0001$], such that reported intention was higher at the immediate post-test and at the follow-up (which were not different from each other) than at the pre-test (Tukey's HSD, $p < 0.05$). There was no main effect of condition on reported intention to be tested for HIV infection within the year [F (3, 69) = 1.41, $p > 0.05$]. There was also no significant interaction between time and condition on reported intention to be tested for HIV infection within the next year [F (6, 138) = 1.44, $p > 0.05$].

Similarly, ANOVA indicated that there was a significant main effect of time on reported intention to be tested for HIV infection sometime in the future [F (2, 138) = 22.33, $p < 0.0001$] such that reported intention was lowest at the pre-test, significantly higher at the immediate post-test, and significantly higher again at the follow-up

(Tukey's HSD, $p < 0.05$). There was no main effect of condition [F (3, 69) = 1.82, $p > 0.05$] and no significant interaction between time and condition on reported intention to be tested for HIV infection sometime in the future [F (6, 138) = 1.94, $p > 0.05$].

Self-efficacy measures.

ANOVA indicated that there was a significant main effect of time on HIV antibody testing self-efficacy [F (2, 137) = 13.70, $p < 0.0001$], such that participants' self-efficacy regarding HIV antibody testing was higher after the intervention and remained higher at the follow-up session, regardless of videotape condition (Tukey's HSD, $p < 0.05$). There was also a significant main effect of condition on HIV antibody testing self-efficacy [F (3, 69) = 6.43, $p < 0.001$]. Self-efficacy scores in both the *Information Only* and *Fear Arousal* conditions were significantly higher than those in the *Internal Attribution* and *CPR* control conditions. There was no interaction between time and condition on HIV antibody testing self-efficacy [F (6, 137) = 1.62, $p > 0.05$].

ANOVA indicated that there was no main effect of time, [F (2, 137) = .11, $p > 0.05$], no main effect of condition [F (3, 69) = .75, $p > 0.05$], and no interaction between time and condition [F (6, 137) = .82, $p > 0.05$] on self-efficacy regarding persuading your partner to get an HIV antibody test.

Similarly, there was no main effect of time, [F (2, 137) = 2.81, $p > 0.05$], no main effect of condition [F (3, 69) = 1.43, $p > 0.05$], and no interaction between time and condition [F (6, 137) = .61, $p > 0.05$] on self-efficacy regarding consistent use of condoms until both partners get an HIV antibody test.

Control measures (CPR items).

ANOVA indicated that there was no main effect of time, [F (2, 137) = 2.14, $p > 0.05$], no main effect of condition [F (3, 69) = 1.27, $p > 0.05$], and no interaction between

time and condition [F (6, 137) = 1.27, p > 0.05] on self-efficacy regarding taking a *CPR* class. ANOVA further indicated that there was no main effect of time, [F (2, 137) = 1.81, p > 0.05], no main effect of condition [F (3, 69) = .06, p > 0.05], and no interaction between time and condition [F (6, 137) = .55, p > 0.05] on intention to take a *CPR* class that semester.

Personality variables.

Table 10 presents the means of the personality measures for each videotape condition. In order to examine the effect of individual differences on the effectiveness of the videotape interventions, a stepwise multiple regression (separated by videotape condition) was done using the various personality measures as predictors of reported intention to be tested for HIV infection this year. None of the personality measures were significant predictors of reported intention to be tested for HIV infection this year in the *Information Only, Internal Attribution,* and *CPR* videotape conditions. In the *Fear Arousal* videotape condition, sexual compulsivity was found to be a significant predictor of reported intention to be tested for HIV infection this year (see Table 11). This negative correlation indicates that participants with lower scores on the sexual compulsivity scale were more likely to report an intention to receive an HIV test this year. Since the previous analyses of variance showed little effect of viewing the videotapes, data from all three videotapes were lumped together for an additional regression analysis. This stepwise regression yielded no significant predictor variables of reported intention to be tested for HIV infection this year.

DISCUSSION

Many young adults who go to college get their first taste of real independence and freedom. Many students are experimenting with alcohol, drugs, and sexual activity

during this time. Although college students are not the most “at risk” population for HIV infection, this combination of experimentation, along with an “it won’t happen to me” attitude, make them a population worth studying. The current study was designed to examine college students’ knowledge and attitudes regarding HIV antibody testing and to

Table 10

Means and (SD) for the Personality Measures in each of the Videotape Conditions

Personality Measure	*CPR*	*Information Only*	*Fear Arousal*	*Internal Attribution*
Sexual Opinion Survey	53.3 (13.9)	54.9 (9.9)	58.1 (13.4)	52.6 (12.4)
Health Locus of Control	43.6 (10.4)	43.4 (9.1)	43.3 (8.7)	42.7 (8.7)
Self-esteem	74.2 (9.9)	76.7 (13.8)	76.6 (14.6)	72.4 (14.9)
Self-efficacy	52.3 (14.4)	57.8 (12.8)	58.7 (7.9)	55.9 (14.1)
Sexual Sensation Seeking	48.7 (15.8)	47.6 (10.3)	50.3 (15.6)	46.5 (15.2)
Sexual Compulsivity	25.3 (15.1)	27.3 (11.5)	25.0 (17.4)	24.0 (14.2)
Non-sexual Sensation Seeking	52.5 (12.3)	51.3 (18.8)	50.8 (18.1)	50.9 (16.2)

Note. All scales are scored on a 0 – 100 scale

Table 11

Stepwise Multiple Regression Predicting Reported Intention to be Tested for HIV Infection this Year for the *Fear Arousal* Videotape Condition

Predictor Variable	r^2	Beta	F	p
Fear Arousal				
Sexual compulsivity	.28	-.08	9.95	.004

use that information to create an effective intervention that would increase the number of college students who receive an HIV antibody test. The results of the study show some support for the use of emotionally laden videotapes as an effective HIV intervention. However, further research is needed to validate these results and expand upon them for use with other populations.

Affective Response to Videotapes

The videotape intervention was designed to create an emotional arousal in order to promote HIV antibody testing. In order to test the effectiveness of the videotapes at creating this emotional tone, affective response to the videotapes was measured before and after the presentation of the tapes. As predicted, there were some obvious changes in the pattern of responses to the PANAS. For the *CPR* videotape condition (the control) there were decreases in the ratings of several adjectives. In other words, simply watching a health related videotape (i.e., *CPR*), resulted in a decrease in students' responses to the several adjectives. This was considered a baseline response. Only those changes different from the baseline were considered. Although the changes were not exactly as predicted, there was a definite emotional tone created by the videotapes.

In all of the experimental videotape conditions, the decreases that were observed with the control videotape were diminished. For students in the *Information Only* condition responses indicated those students were feeling less "responsible" and "accountable" and more "afraid" which was interesting because researchers intended for no emotional arousal to be gained from the *Information Only* condition. This videotape condition was intended to be a second control condition, whereby HIV testing information was provided but no emotional tone was presented. These changes in response may be due to the change in subject matter or may be an unexpected effect of

the HIV experts who were on the videotapes.

For the *Internal Attribution* videotape condition, there were no changes in responses at all after viewing the videotape. This is a different pattern of responses than those observed with the *CPR* condition. All of the decreases seen at baseline are gone, but unfortunately, we did not see an increase in the adjectives that would have indicated an increase in personal responsibility that we were trying to achieve.

Students in the *Fear* videotape condition responded more closely to the expected pattern. In this condition, responses indicated that participants were feeling more "alert", "afraid", "upset" and "enthusiastic". This indicates that an appropriate emotional tone was generated from the videotape condition.

Although the manipulation was not perfect at inducing the intended emotional tone, there were different patterns of responses for each videotape condition. This allowed for further examination of participants' responses to determine if the videotapes were effective at generating behavior change. Due to the lack of significant findings for many of the dependent variables, it is now apparent that the IV manipulation could have been stronger. This should be taken into consideration in future studies attempting to validate this type of intervention.

Attitudes about HIV Testing.

Attitudes have been thought to be good predictors of behavior (Ajzen & Fishbein 1980). This is especially true when the attitudes are specific to the behavior in question (Bruce & Reid, 1998). One aim of the current study was to encourage more positive attitudes towards HIV testing and ultimately increase actual HIV testing as well. Unfortunately the data showed participants' attitudes increased after the videotape presentation in all conditions (including *CPR*). This indicates that there was no effect of

the videotapes on these variables. More likely, there were demand characteristics of the study, and due to the self-report nature of the data, participants responded accordingly. This is a danger inherent to all self-report data. Researchers tried to eliminate the demand characteristics as much as possible, but it is apparent that they must still have been obvious to the students. The increase in attitudes about HIV antibody testing that was evident at the immediate post-test remained steady over time.

HIV Knowledge.

It has been demonstrated in previous research that videotape presentations can elicit an increase in knowledge related to HIV infection and AIDS (Rhodes & Wolitski, 1989; Solomon & Dejong, 1989). In the current study, immediate knowledge about HIV antibody testing increased across all groups, regardless of the videotape condition. Thus researchers again conclude that there were demand characteristics at work again, rather than a real effect of the manipulation. The increase in self-reported knowledge was no longer a significant effect when considering the long-term follow-up data. While this loss of a significant effect is most likely due to subject attrition, it is unclear why some of the dependent variables seem to be less affected by the demand characteristics than others. Due to the large number of participants who did not return for the follow-up session, volunteer bias must be taken into consideration. There may an important difference between the students who returned for the follow-up session and those who did not. They may be more conscientious or more responsible. There may also be other unknown factors that may influence who returned for the follow-up and who chose not to. These differences may have had a confounding influence on the data.

Susceptibility to HIV Infection.

Interestingly, participants' self-reported susceptibility to HIV infection decreased

in the *Fear* videotape condition only. One might have expected an increase in susceptibility after hearing the information presented during the videotape. It is possible that the typical "it can't happen to me" mind-set may have been evoked more strongly due to the apprehension caused by the *Fear* videotape. Research has shown that fear is best used in a persuasive message when people are given an opportunity to reduce harm (Petty & Cacioppo, 1986). In the current study, receiving an HIV test provided this opportunity. However, few students took advantage. While this does provide an opportunity to determine if one has HIV, it does not guarantee a positive outcome. This may have affected the efficacy of this persuasive message. The interaction seen in participants' self-reported susceptibility to HIV was lost when considering only the long-term data. Instead, there was a significant main effect of time, where susceptibility decreased at the immediate post-test, and remained stable at the long-term follow-up. This effect of the *Fear* videotape on perceived susceptibility was not observed at the long-term follow-up because of lack of power due to the smaller number of participants. Had more of the students returned for the follow-up there might have been an enduring effect.

Behavioral Intention Measures.

The Theory of Reasoned Action posits that behavioral intention is the first step to behavior change (Ajzen & Fishbein, 1980). With this in mind, researchers measured participant's intention to be tested for HIV as a precursor to actual HIV testing. Unfortunately, this measure appeared to be adversely affected by the demand characteristics of the study. Participants' self-reported intention to be tested for HIV infection during the current semester, during the current year, or ever in their lifetime showed significant increases across time regardless of the experimental condition. This

was true for both the short-term and the long-term data.

Although actual HIV testing was recorded, few participants actually received the test during the study period and thus there were not sufficient data to do any meaningful analyses. However, the 6 students who did receive the test were distributed relatively even among the 4 groups. The lack of data may have been affected by the time constraints of the school semester. If more time were available, more students may have chosen to be tested. Many students reported an intention to be tested for HIV during the current semester, but either did not follow through or they failed to turn in the coupon that allowed us to track whether they tested or not. This finding is similar to that of Wilson, Jaccard, and Minkoff (1996). In their study, 56% of participants reported an intention to be tested for HIV infection, while only 12% actually followed through with the testing. Their conclusion was that the attitude that is salient at any given time will influence behavior. In other words, when being asked whether they intend to receive an HIV test the salient attitude might be HIV prevention. When it is time to actually receive the test, the salient attitude might be the stigma attached to HIV testing, embarrassment, or any number of things. Further, Kalichman (1996b) reported that in a number of videotape interventions there was a significant change in attitudes but not in the corresponding behavior.

Self-efficacy Measures.

The three components of the IMB Model of Behavior Change were targeted in the current research (Fisher & Fisher, 1992). Each of the videotapes provided information about HIV antibody testing. The emotional tone of the videotapes was intended to motivate the participants to receive HIV antibody testing. Self-efficacy with regard to HIV testing behaviors was measured to determine the participants' perception of their

behavioral skills. The data showed an increase in self-reported self-efficacy with regard to HIV testing behaviors over time regardless of videotape condition. This again is probably due to the demand characteristics of the study. Interestingly, there was also a main effect of condition. Participants in the *Internal Attribution* condition had similar responses to those in the *CPR* condition, which were lowest of all the groups. Participants in the *Fear Arousal* videotape condition indicated higher self-efficacy while those in the *Information Only* condition reported the highest self-efficacy of all. These differences in the data were observed regardless of the time period. Since the information alone (with no emotional tone) produced the highest self-efficacy ratings, it may be that the emotional response caused by the *Fear Arousal* videotape may have reduced the effectiveness of the message being presented.

Analyses of the long-term data for self-reported self-efficacy with regard to HIV testing showed similar effects to those seen at the immediate follow-up. There was a continued main effect of time; self-efficacy was greater after the videotape presentation than before, and stayed up at the long-term follow-up. The main effect of condition also persisted. Participants in the *Internal Attribution* condition had similar responses to those in the *CPR* condition, which were lowest of all the groups. Participants in the *Fear* videotape condition had similar responses to those in the *Information Only* condition and were higher than the other two groups.

There was no significant effect on self-efficacy with regard to persuading a partner to get a test. This is not really surprising due to the fact that this particular topic was not addressed in the videotapes. It is interesting that this variable did not seem to be affected by any demand characteristics like many of the other variables. The long-term data also showed no significant effect on self-efficacy with regard to persuading a partner

to get a test.

There was an interesting interaction among the participants' responses to self-efficacy with regard to using condoms consistently until both partners had been tested. For participants in the *Internal Attribution* and *Information Only* conditions there were no significant effects. In the *Fear* condition, ratings increased after the participants viewed the videotape. This suggests that participants viewed their self-efficacy with regard to using condoms as greater after the video than before. Conversely, in the *CPR* condition, responses to self-efficacy with regard to using condoms consistently decreased after viewing the videotape. Although the importance of condom use was stressed during the HIV videotapes, no guidance or instruction was given that should have changed the students' perception of self-efficacy. Of course, there was no mention of condoms at all in the *CPR* video, so it was unexpected that viewing this video should have had a significant impact on students' responses. Furthermore, the effects seen during the immediate post-test on using condoms consistently until both partners had been tested failed to be significant when analyzed with the long-term data. This is presumably due to subject attrition. The significant main effect of time on the participants' responses to self-efficacy with regard to using condoms consistently until both partners had been tested is most likely further reflection of the demand characteristics of the study.

As expected, there were no significant effects (either short or long-term) to the two control items that were included in among the questions. These items were similar to HIV testing questions that were on the questionnaire. They were included to make the CPR videotape seem somewhat related to the questions being asked, and to detect any unexpected patterns of responding. The absence of any significant effects of these data is encouraging.

Personality Variables.

As a rule, people are slow to make changes in their behavior. However, research has shown that some personality traits (e.g., self-esteem, sensation seeking) may be associated with changes in risky behavior (Kyes, 1990; Hollar & Snizek, 1996). A stepwise regression was done in the current study to examine possible predictors of intention to be tested for HIV infection. Significant results were found in only one of the videotape conditions.

In the *Fear Arousal* condition, sexual compulsivity was predictive of intention to be tested for HIV infection during the current year. This suggests that people who are less preoccupied with regard to sexuality and sexual behaviors in everyday life were more affected by the *Fear Arousal* videotape than other people. According to the IMB Model of Behavior Change there are three components needed to promote behavior change. Information was provided in all three of the HIV videotapes, and for the folks who scored low on the sexual compulsivity scale the anxiety provoked by the *Fear Arousal* videotape provided the necessary motivation.

Due to the low number of participants and the fact that there were few effects of the videotapes previously noted, a follow-up stepwise regression analysis was done to see if more predictors could be isolated by grouping all participants together into a single group. Unfortunately, this analysis failed to yield any significant predictors as well. This examination of personality traits as predictors of intention to test was a bit premature. In hindsight, it may have been better to establish the effectiveness of the videotapes first, then follow-up with the personality data in a separate study.

Limitations and Future Directions.

This study was a good first attempt at examining the effects of emotionally laden

videotapes on HIV antibody testing behaviors. Important lessons were learned throughout the course of this study. Despite the fact that there were few significant effects demonstrated in the current study, there were some very interesting patterns emerging. Any effects that could have been obtained from the videotape presentations may have been masked due to limitations in power.

A post-hoc power analysis was done on the data in the present study to determine the level of power present to detect the main effects and interaction effects. Calculations for Phi (alpha = .01; Keppel, 1973) and interpolation of the power functions confirmed moderate to high power (.6 to .9) for detecting changes over time for both HTAS scores and intention to test over the next year. However, for all the effects involving the videotape manipulation, power was estimated to be low (<.1 to .2).

This lack of power was particularly problematic for the *Fear Arousal* videotape condition. A replication of the study comparing this videotape with only one control would be a significant improvement over the current study. In addition to testing more participants, it would be useful to limit the number of HIV questions being asked and imbed them among other health-related questions to reduce the demand characteristics.

In general, videotapes have been shown to be an inexpensive means for distributing information to large numbers of people (Gilliam & Seltzer, 1989). If the videotapes from the current study were shown to be useful, it would be important to further test their efficacy with other at-risk populations (i.e., gay men and IV drug-users). Once this has been established, similar videotapes could be used as educational tools in doctors' offices and waiting rooms, clinics, and many other places where people at risk for HIV infection could be exposed to them. The videotapes used for this study were targeted to a college-student audience. Further use of the tapes should also be targeted to

the appropriate audience (Carey et al., 1997).

REFERENCES

Ajzen, I. & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. Psychological Bulletin, 84, 888-918.

Ajzen, I. & Fishbein, M. (1980). Understanding attitudes and predicting social behavior. Englewood Cliffs, NJ: Prentice-Hall.

Ashworth, C. S., DuRant, R. H., Newman, C., Gaillard, G. (1992). An evaluation of a school-based AIDS/HIV education program for high school students. Journal of Adolescent Health, 13, 582-588.

Bandura, A. (1986). Social foundation of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice-Hall.

Bauman, D. W. (1993). Peer education in the residential context. Journal of American College Health, 41, 271-272.

Beardsell, S. (1994). Should wider HIV testing be encouraged on the grounds of HIV prevention? AIDS Care, 6, 5-19.

Becker, H., Stuifbergen, A., Oh, H., & Hall, S. (1993). Self-rated abilities for health practices: A health self-efficacy measure. Health Values, 17, 42-50.

Boshamer, C. B. (1997). HIV testing: An evaluation of the efforts of HIV outreach and an investigation of attitudes toward HIV testing. Unpublished master's thesis, University of North Carolina at Wilmington.

Boshamer, C. B., & Bruce, K. E. (1999). A scale to measure attitudes about HIV-antibody testing: Development and psychometric validation. AIDS Education and Prevention, 11, 400-413.

Bruce, K. E. & Reid, B. (1998). Assessing the construct validity of the AIDS Attitude Scale. AIDS Education and Prevention, 10, 75-89.

Bruce, K. E., Shrum, J. C., Trefethen, C., & Slovik, L. F. (1990) Students' attitudes about AIDS, homosexuality, and condoms. AIDS Education and Prevention, 2, 220-234.

Byrne, D. (1977). Social psychology and the study of sexual behavior. Personality and Social Psychology Bulletin, 3, 3-30.

Carey, M. P., Maisto, S. A., Kalichman, S. C., Forsyth, A. D., Wright, E. M., & Johnson, B. T. (1997). Enhancing motivation to reduce the risk of HIV infection for economically disadvantaged urban women. Journal of Consulting and Clinical Psychology, 65, 531-541.

Centers for Disease Control (1995). The first 500,000 cases of AIDS in the United States. Morbidity and Mortality Weekly Report, 44, 849-853.

Centers for Disease Control (2000). Deaths and Percent of Total Deaths for the 10 Leading Causes of Death by Race; United States, 2000. National Vital Statistics Report, 50, 23-41.

Coates, T. J., Stall, R. D., Kegeles, S. M., Lo, B., Morin, S. F., & McKusick, L. (1988). AIDS antibody testing: Will it stop the AIDS epidemic? Will it help people infected with HIV? American Psychologist, 43, 859-864.

Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. Journal of Consulting Psychology, 24, 349-354.

Des Jarlais, D. C., & Friedman, S. R. (1988). The psychology of preventing AIDS among intravenous drug users. A social learning conceptualization. American Psychologist, 43, 865-870.

Fisher, W. A., Byrne, D., Edmunds, M., Miller, C. T., Kelley, K., & White, L. A. (1979). Psychological and situation-specific correlates of contraceptive behavior among university women. The Journal of Sex Research, 15, 38-55.

Fisher, W. A., Byrne, D., White, L. A., & Kelley, K. (1988). Erotophobia-erotophilia as a dimension of personality. The Journal of Sex Research, 25, 123-151.

Fisher, J. D., & Fisher, W. A. (1992). Changing AIDS-risk behavior. Psychological Bulletin, 111, 455-474.

Fisher, J. D., & Misovich, S. J. (1990). Evolution of college students' AIDS-related behavioral responses, attitudes, knowledge, and fear. AIDS Education and Prevention, 2, 322-337.

Franzini, L. R. & Sideman, L. M. (1994). Personality characteristics of condom users. Journal of Sex Education and Therapy, 20, 110-118.

Gayle, H. D., Keeling, R. P., Garcia-Tunon, M., Kilbourne, B. W., Narkunas, J. P., Ingram, F. R., et al. (1990). Prevalence of the Human Immunodeficiency Virus among university students. The New England Journal of Medicine, 323, 1538-1541.

Gilliam, A., & Seltzer, R. (1989). The efficacy of educational movies on AIDS knowledge and attitudes among college students. Journal of American College Health, 37, 261-265.

Hollar, D. S., & Snizek, W. E. (1996). The influences of knowledge of HIV/AIDS and self-esteem on the sexual practices of college students. Social Behavior and Personality, 24, 75-86.

Huszti, H. C., Clopton, J. R., & Mason, P. J. (1989). Acquired Immunodeficiency Syndrome educational program: Effects on adolescents' knowledge and attitudes. Pediatrics, 84, 986-993.

Janis, I. & Feshbach, S. (1953). Effects of fear arousing communications. Journal of Abnormal and Social Psychology, 48, 78-92.

Kalichman, S. C. (1996a). Answering Your Questions About AIDS. Washington, D.C.:

American Psychological Association.

Kalichman, S. C. (1996b). HIV-AIDS Prevention videotapes: A review of empirical findings. The Journal of Primary Prevention, 17, 259-279.

Kalichman, S. C., Carey, M. P., & Johnson, B. T. (1996). Prevention of sexually transmitted HIV infection: A meta-analytic review of the behavioral outcome literature. Annals of Behavioral Medicine, 18, 6-15.

Kalichman, S. C. & Coley, B. (1995). Context framing to enhance HIV-antibody-testing messages targeted to African American women. Health Psychology, 14, 247-254.

Kalichman, S. C., Heckman, T., & Kelly, J. A. (1996). Sensation seeking as an explanation for the association between substance use and HIV-related risky sexual behavior. Archives of Sexual Behavior, 25, 141-154.

Kalichman, S. C. & Rompa, D. (1995). Sexual sensation seeking and sexual compulsivity scales: Reliability, validity, and predicting HIV risk behavior. Journal of Personality Assessment, 65, 586-601.

Kalichman, S. C., Sikkema, K. J., Kelly, J. A., & Bulto, M. (1995). Use of a behavioral skills intervention to prevent HIV infection among chronic mentally ill adults. Psychiatric Services,46, 275-280.

Kalichman, S. C., Somlai, A., Adair, V., & Weir, S. S. (1996). Psychological factors in HIV antibody testing among sexually transmitted disease clinic patients: An exploratory study. Psychology and Health, 11, 593-604.

Kann, L., Kinchen, S. A., Williams, B. I., Ross, J. G., Lowry, R., Hill, C. V. (1998). Youth Risk Behavior Surveillance – United States, 1997. Morbidity and Mortality Weekly Report, 47, 1-21.

Keppel, G. (1973). Design and analysis; A researcher's handbook. Englewood Cliffs,

NJ: Prentice Hall.

Kyes, K. B. (1990). The effect of a “safer sex” film as mediated by erotophobia and gender on attitudes towards condoms. The Journal of Sex Research, 27, 297-303.

LaPiere, R. T. (1934). Attitudes versus action. Social Forces, 13, 230-237.

Leventhal, H., & Watts, J. Sources of resistance to fear-arousing communications on smoking and lung cancer. Journal of Personality, 34, 155-175.

Lipson, J. M. & Brown, L. T. (1991). Do videotapes improve knowledge and attitudes about AIDS? Journal of American College Health, 39, 235-242.

Lyter, D. W. (1989) The role of HIV testing in AIDS prevention programs. In R. O. Valdiserri (Ed.) Preventing AIDS: The design of effective programs (pp. 209-245). New Brunswick: Rutgers University Press.

Mandell, W., Vlahov, D., Latkin, C. A., Carran, D., Oziemkowska, M. J., & Reedt, L. (1994). Changes in HIV risk behaviors among counseled injecting drug users. Journal of Drug Issues, 24, 555-567.

Millar, M. G. & Millar K. U. (1993). Changing breast self-examination attitudes: Influences of repression-sensitization and attitude message match. Journal of Research in Personality, 27, 301-314.

Myers, T., Orr, K. W., Locker, D., & Jackson, E. A. (1993). Factors affecting gay and bisexual men’s decisions and intentions to seek HIV testing. American Journal of Public Health, 83, 701-704.

Osmond, D., Charlebois, E., Lang, W., Shiboski, S., & Moss, A. (1994) Changes in AIDS survival time in two San Francisco cohorts of homosexual men, 1983-1993. Journal of the American Medical Association, 271, 1083-1087.

Paulhus, D. L. (1984). Two-component models of socially desirable responding. Journal

of Personality and Social Psychology, 46, 598-609.

Petty, R. E., & Cacioppo, J. T. (1986). Communication and persuasion: Central and peripheral routes to attitude change. New York: Springer-Verlag.

Phillips, K. A., & Coates, T. J. (1995). HIV counseling and testing: Research and policy issues. AIDS Care, 7, 115-124.

Ragon, B. M., Kittleson, M. J., & St Piere, R. W. (1995). The effect of a single affective HIV/AIDS educational program on college students' knowledge and attitudes. AIDS Education and Prevention, 7, 221-231.

Ray, M. L., & Wilkie, W. L. (1970). Fear: The potential of an appeal neglected by marketing. Journal of Marketing, 34, 54-62.

Rhodes, F., & Wolitski, R. (1989). Effect of instructional videotapes on AIDS knowledge and attitudes. Journal of American College Health, 37, 266-271.

Rigby, K., Brown, M., Anagnostou, P., Ross, M., & Rosser, B. R. (1989). Shock tactics to counter AIDS: The Australian experience. Psychology and Health,3, 145-159.

Rosenberg, M. (1965). Society and the adolescent self-image. Princeton, NJ: Princeton University Press.

Rothman, A. J., Salovey, P., Turvey, C., & Fishkin, S. A. (1993). Attributions of responsibility and persuasion: Increasing mammography utilization among women over 40 with an internally oriented message. Health Psychology, 12, 39-47.

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. Psychological Monographs, 80.

Shulkin, J. J., Mayer, J. A., Wessel, L. G., De Moor, C., Elder, J. P., Franzini, L. R. (1991). Effects of a peer-led AIDS intervention with university students. College Health, 40, 75-79.

Silvestre, A. J., Kingsley, L. A., Rinaldo, C., Witt, R. C., Lyter, D. W., & Valdiserri, R. (1993). Factors associated with participation in HIV antibody screening and results disclosure. Health and Social Work, 18, 248-258.

Simon, P. A., Weber, M., Ford, W. L., Cheng, F., Kerndt, P. R. (1996). Reasons for HIV antibody test refusal in a heterosexual sexually transmitted disease clinic population. AIDS, 10, 1549-1553.

Smith, E. A., Dickson, L. L. (1993). The impact of a condom desensitization program on female college students. Health Values, 17, 21-31.

Solomon, M. Z., & DeJong, W. (1989). Preventing AIDS and other STD's through condom promotion: A patient education intervention. American Journal of Public Health,79, 453-458.

Sternthal, B. & Craig, C. S. (1974). Fear appeals: Revisited and revised. Journal of Consumer Research, 1, 22-34.

Svenson, L. W., Carmel, S., & Varnhagen, C. K. (1997). A review of the knowledge, attitudes and behaviours of university students concerning HIV/AIDS. Health Promotion International, 12, 61-68.

Wallston, K. A., Maides, S., & Wallston, B. S. (1976). Health related information seeking as a function of health related locus of control and health value. Journal of Research in Personality, 10, 215-222.

Wallston, B. S., Wallston, K. A., Kaplan, G. D., & Maides, S. A. (1976). Development and validation of Health Locus of Control (HLC) Scale. Journal of Consulting and Clinical Psychology, 44, 580-585.

Walters, A. S. (1997). The influence of homophobia in HIV/AIDS education. Journal of Psychology and Human Sexuality, 9, 17-38.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. Journal of Personality and Social Psychology, 54, 1063-1070.

Wilson, T. E., Jaccard, J., & Minkoff, H. (1996). HIV-antibody testing: Beliefs affecting the consistency between women's behavioral intentions and behavior. Journal of Applied Social Psychology, 26, 1734-1748.

Winett, R. A., Altman, D. G., & King, A. C. (1990). Conceptual and strategic foundations for effective media campaigns for preventing the spread of HIV infection. Evaluation and Program Planning, 13, 91-104.

Wulfert, E. & Wan, C. K. (1993). Condom use: A self-efficacy model. Health Psychology, 12, 346-353.

Zuckerman, M. (1983). A biological theory of sensation seeking. In M. Zuckerman, (Ed.), Biological bases of sensation seeking, impulsivity, and anxiety (pp. 37-76). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

APPENDIX

Appendix A. Demographic and Open-ended Questionnaire used for the Elicitation Research.

1. How likely do you think it is that you will become infected with HIV in the five years?

   1 2 3 4 5 6 7 8 9 10

   DEFINITELY NOT AT ALL

   Why did you choose this answer?

2. How likely are you to get an HIV test in the next year?

   1 2 3 4 5 6 7 8 9 10

   DEFINITELY NOT AT ALL

   Why did you choose this answer?

3. How would you rate your knowledge about AIDS and HIV infection?

   1 2 3 4 5 6 7 8 9 10

   POOR EXCELLENT

4. Please list as many things as you can about the HIV antibody test

5. Have you ever been tested for HIV? Why or Why not?

6. What concerns or issues would (did) you have about having the test done? Please list as many issues as you can (e.g., concern about the accuracy of the test).

7. Is your family's opinion likely to affect your decision to have an HIV antibody test?

   1 2 3 4 5 6 7 8 9 10

   DEFINITELY NOT AT ALL

   Why did you choose this answer?

8. Are your friends' opinions likely to affect your decision to have an HIV antibody test?

   1 2 3 4 5 6 7 8 9 10

   DEFINITELY NOT AT ALL

   Why did you choose this answer?

9. What concerns or issues do you think other college students have about the HIV antibody test? Please list as many as you can think of.

1 Think about the seatbelt commercials that use scare tactics (people who died from accidents because they weren't wearing their seatbelt's) to encourage you to use seatbelts. Do you believe this type of message is effective in encouraging college students to wear seatbelts? Why or Why Not?

1 Do you think using a fear message (similar to the approach described in # 10 above) would be effective in promoting HIV antibody testing in college students? Why or Why not?

1 Breast cancer commercials that tell women that they can detect early lumps and prevent cancer from spreading if they will do monthly self-exams are attempting to increase the number of women who perform self-exams. Do you think this type of message that emphasizes *Internal Attribution* is effective with the typical female college student for increasing self-exams? Why or Why not?

1 Do you think a message that emphasizes *Internal Attribution* (similar to the approach described in # 12 above) would be effective in promoting HIV antibody testing in college students? Why or Why not?

1 Many celebrities endorse safer sexual behaviors in television advertisements. Do you think this is an effective strategy for encouraging college students to practice safe sex? Why or Why not?

1 Do you think a message given by a celebrity (similar to the approach described in # 14 above) would be effective in promoting HIV antibody testing in college students? Why or Why not?

1 Are there any other approaches that would be more effective in encouraging college students to receive the HIV antibody test? Please list as many as you can.

Appendix B. Written scripts from which the HIV intervention videotapes were made.

The scene opens with two college students walking in the hallway. As they meet in the hallway, they stop to chat.

INFORMATION ONLY SCRIPT

Susan: Hi Brian, How are you doing?

Brian: Great Susan, how are you?

Susan: I am doing pretty good. Listen, I was wondering if I could ask you a question?

Brian: Sure, what's up?

Susan: Well, I was wondering how much you know about HIV testing.

Brian: Not much really, I've never been tested myself. Why do you ask?

Susan: Well, I heard that they are doing testing on campus this semester, and I thought I'd go and get tested. I just don't know that much about it.

Brian: Well I did hear there were some HIV counselors here to answer questions about HIV testing. Let's go see what they have to say.

Susan: Okay.

Fade out…Fade into Bobby and Vivian

Off-camera speaker: Hi everyone, welcome to our information session about HIV antibody testing. Please welcome Bobby Waters and Vivian Mears from the New Hanover County Health Department. They are going to answer questions that you have about HIV antibody testing. Please take a moment to jot down any questions that you

would like to have Bobby and Vivian answer.

Fade out…Fade into Bobby

Off-camera speaker: Bobby, the first question is – What exactly is the HIV test?

Bobby:

The Human Immunodeficiency Virus antibody test is given to determine if a person has been exposed to HIV, the virus that causes AIDS. When any virus enters you, your body's immune system responds by making antibodies to fight that specific virus. This is a test for the antibodies to the Human Immunodeficiency Virus. If the antibodies to HIV are found then the virus is there.

For most people, once HIV enters the body, it takes about 3 months to produce enough antibodies to show on a test. It is 95% accurate at that point. It is virtually 100% accurate 6 months after the virus enters the body. If a person has had a recent risk, test now, be risk free, then test again in 3 to 6 months.

Testing is free of charge at the health department and is also available at many doctor's offices and clinics.

Fade out…Fade into Vivian

Off-camera speaker: Vivian, What kinds of things happen when you go to get the test?

Vivian:

Well, at the health department the first thing we do is called pre-test counseling. This is where we discuss how HIV is transmitted, the effects it has on a person's body, the public health law regarding HIV and how a person can protect him or herself. We also do a risk assessment and create a plan for reducing the behaviors that put a person at risk for HIV. There is also an opportunity for people to ask questions.

Following the counseling, a person must sign a consent which states that he or she understands the information given during the pre-test counseling session and that the test results will be a part of his or her confidential record at the health department.

The blood is drawn and sent to the lab for analysis, and the results are sent back to us in about two weeks.

When a person comes in to receive his or her test results, we also provide post-test counseling. This session reviews information about when the person's last risk for HIV infection occurred, whether a 3 month follow up test is indicated and what that person is going to do to reduce future risks. Of course, the HIV antibody test, like all other medical procedures, is kept completely confidential.

Fade out…Fade into Bobby

Off-camera speaker: The next question is - What does a negative test mean?

Bobby:

A negative result means that HIV antibodies are not currently detectable in the blood. That may mean that a person is not infected but it may also mean that not enough time has passed for the body to produce enough antibodies to be detected on a test. If a person has had a recent risk he or she would need to test again in 3 to 6 months.

Always remember, HIV enters the body when you are exposed to an infected person's blood, semen, or vaginal secretions. Using condoms 100% of the time and not sharing needles prevents those body fluids from entering.

Fade out…Fade into Vivian

Off-camera speaker: Vivian, What does a person do if the test turns out positive?

Vivian:

If a person tests HIV positive, there are drug treatments that are available that can allow a person to remain healthier for a longer period of time than if he does not know his HIV status. Also, if a person maintains a healthy lifestyle by eating healthy and exercising, he or she can increase the quality of his or her life.

It is also imperative that a person uses condoms consistently and never shares needles to prevent the spread of the disease.

Fade out…Fade into Bobby

Off-camera speaker: Bobby, the final question for today is - Who should be tested for HIV infection?

Bobby:

Anyone who has ever had unprotected intercourse should be tested for HIV. Anyone who has shared needles should be tested. This includes people from all walks of life, young or old, whatever your sexual orientation. There is no immunity to HIV.

Fade out…Fade into Bobby and Vivian

Off-camera speaker: Thank you all for coming today. I hope this session has been helpful for you, and all your questions have been answered. I would also like to thank Vivian and Bobby for being here today.

Fade out…Fade back into Brian and Susan talking

Brian: Well Susan, So what do you think? I guess that answers all of our questions.

Susan: Well, it sounds like it is important, so I think I should have the test done.

Brian: I think you're right, can I go with you.

Susan: Sure.

Brian: I really should get tested too. There is every reason to get tested since it is free, and offered right here on campus.

Susan: Yeah.

FEAR SCRIPT

Susan: Hi Brian, How are you doing?

Brian: Great Susan, how are you?

Susan: I am doing pretty good. Listen, I was wondering if I could ask you a question?

Brian: Sure, what's up?

Susan: Well, I was wondering how much you know about HIV testing.

Brian: Not much really, I've never been tested myself. Why do you ask?

Susan: Well, I heard that they are doing testing on campus this semester, and I thought I might go and get tested. I just don't know that much about it.

Brian: Well I did hear there were some counselors here to answer questions about HIV testing. Let's go see what they have to say.

Susan: Okay.

Fade out…Fade into Bobby and Vivian

Off-camera speaker: Hi everyone, welcome to our information session about HIV antibody testing. Please welcome Bobby Waters and Vivian Mears from the New Hanover County Health Department. They are going to answer questions that you have about HIV antibody testing. Please take a moment to jot down any questions that you would like to have Bobby and Vivian answer.

Fade out…Fade into Bobby

Off-camera speaker: Bobby, the first question is - What exactly is the HIV test?

Bobby:

HIV means Human immunodeficiency Virus. It is the virus that results in AIDS, a very debilitating and fatal disease. The Human Immunodeficiency Virus antibody test is

given to determine if a person has been exposed to HIV, the virus that causes AIDS. When any virus enters you, your body's immune system responds by making antibodies to fight that specific virus. This is a test for the antibodies to the Human Immunodeficiency Virus. If the antibodies to HIV are found then the virus is there.

For most people, once HIV enters the body, it takes about 3 months to produce enough antibodies to show on a test. It is 95% accurate at that point. It is virtually 100% accurate 6 months after the virus enters the body. If a person has had a recent risk, test now, be risk free, then test again in 3 to 6 months.

Testing is free of charge at the health department and is also available at many doctor's offices and clinics.

Fade out…Fade into Vivian

Off-camera speaker: Vivian, the next question is - What kinds of things happen when you go to get the test?

Vivian:

Well, at the health department the first thing we do is called pre-test counseling. This is where we discuss how HIV is transmitted, the effects it has on a person's body, the public health law regarding HIV and how you can protect yourself. We also do a risk assessment and create a plan for reducing the behaviors that put a person at risk for HIV. There is also an opportunity for people to ask questions.

Following the counseling, a person must sign a consent which states that he or she understands the information given during the pre-test counseling session and that the test results will be a part of his or her confidential record at the health department.

The blood is drawn and sent to the lab for analysis, and the results are sent back to

us in about two weeks.

When a person comes in to receive their test results, we also provide post-test counseling. This session reviews information about when the person's last risk for HIV infection occurred, whether a 3 month follow up test is indicated and what that person is going to do to reduce future risks.

Of course, the HIV antibody test, like all other medical procedures, is kept completely confidential.

Fade out…Fade into Bobby

Off-camera speaker: The next question is - What does a negative test mean?

Bobby:

Just because you got a negative test result does not necessarily mean that you are OK. If you are currently engaging in any type of risky behaviors, you may still become infected with the lethal virus.

A negative result means that HIV is not currently detectable in the blood. That does not mean a person is not infected. As I said before, one test does not give definitive results. If a person has had a recent risk, they would need to test again in 3 to 6 months.

A person also needs to be sure that they protect themselves from getting the infection in the future by using condoms 100% of the time and not sharing needles. A negative test does not mean that you are immune to this fatal disease, and precautions should always be taken.

Fade out…Fade into Vivian

Off-camera speaker: Vivian, What does a person do if the test turns out positive?

Vivian:

Although AIDS is a devastating and deadly disease, there are benefits to finding out sooner rather than later. The effects of an HIV infection are severe, but with early detection, treatment can begin sooner. The sooner treatment begins, the better it is for your health. Treatment can delay the onset of the opportunistic infections that are associated with AIDS such as cancer lesions, recurrent pneumonia and tuberculosis. If a person tests HIV positive, the drug treatments that are available that can allow a person to remain healthier for a longer period of time than if he does not know his HIV status. Also, if a person maintains a healthy lifestyle by eating healthy and exercising, he or she can increase the quality of his or her life.

It is also imperative that a person uses condoms consistently and never shares needles to prevent the spread of the disease.

Fade out…Fade into Bobby

Off-camera speaker: Bobby, the final question for today is - Who should be tested for HIV infection?

Bobby:

If another person's blood, semen, or vaginal secretions have entered your body, then you need to be tested.

Anyone who has ever had any type of unprotected sex should be tested for HIV. Anyone who has shared needles should be tested. This includes people from all walks of life, young or old, whatever your sexual orientation. NO ONE is immune from THIS DANGEROUS DISEASE.

1 out of every 4 new cases of HIV infection in the US is in people under the age of 25. In NC alone, AIDS is the second leading cause of death in young people ages 19-

24. The SECOND leading cause of DEATH.

Fade out…Fade into Bobby and Vivian

Off-camera speaker: Thank you all for coming today. I hope this session has been helpful for you, and your questions have all been answered. I would also like to thank Vivian and Bobby for being here today.

Fade out…Fade back into Brian and Susan talking

Brian: Well Susan, I guess that answers all of our questions. What do you think, are you gonna get tested?

Susan: Well, it sounds like it is important. AIDS is a really horrible disease, and I think I need to have the test done to see if I have been exposed. It's really scary to think that I may have been infected, and if something can be done about it, I think I would rather know now than later.

Brian: You're right, can I go with you.

Susan: Sure.

Brian: I really should be tested too. There really is no reason why I shouldn't go get tested since it is free, and offered right here on campus.

Susan: Yeah.

INTERNAL ATTRIBUTION SCRIPT

Susan: Hi Brian, How are you doing?

Brian: Great Susan, how are you?

Susan: I am doing pretty good. Listen, I was wondering if I could ask you a question?

Brian: Sure, what's up?

Susan: Well, I was wondering how much you know about HIV testing.

Brian: Not much really, I've never been tested myself. Why do you ask?

Susan: Well, I heard that they are doing testing on campus this semester, and I thought I might go and get tested. I just don't know that much about it.

Brian: Well I did hear there were some counselors here to answer questions about HIV testing. Let's go see what they have to say.

Susan: Okay.

Fade out…Fade into Bobby and Vivian

Off-camera speaker: Hi everyone, welcome to our information session about HIV antibody testing. Please welcome Bobby Waters and Vivian Mears from the New Hanover County Health Department. They are going to answer questions that you have about HIV antibody testing. Please take a moment to jot down any questions that you would like to have Bobby and Vivian answer.

Fade out…Fade into Bobby

Off-camera speaker: Bobby, the first question is – What exactly is the HIV test?

Bobby:

It's called the Human Immunodeficiency Virus antibody test. It's a test you can decide to take to find out if you have been exposed to the virus that causes AIDS. When

any virus enters you, your body will respond by making antibodies to fight that specific virus. This is a test for the antibodies to the Human Immunodeficiency Virus. If the antibodies are found then the virus is there.

For most people, once HIV enters the body, it takes about 3 months to produce enough antibodies to show on a test. It is 95% accurate at that point. It is virtually 100% accurate 6 months after the virus enters the body. If you have had a recent risk, test now, be risk free, then test again in 3 to 6 months.

You can be tested free of charge at the health department, and that test is also available at many doctors' offices and clinics.

Fade out…Fade into Vivian

Off-camera speaker: Vivian, What kinds of things happen when you go to get the test?

Vivian:

Well, at the health department the first thing we do is called pre-test counseling. This is where we discuss how HIV is transmitted, the effects it has on your body, the public health law regarding HIV and how you can protect yourself. We also do a risk assessment and create a plan for reducing the behaviors that put you at risk for HIV. There is also an opportunity for you to ask questions.

Following the counseling, you must sign a consent form which states that you understand the information given during the pre-test counseling session and that the test results will be a part of your confidential record at the health department.

The blood is drawn and sent to the lab for analysis, and the results are sent back to us in about two weeks.

When you come in to receive your test results, we also provide post-test counseling. This session reviews information about when your last risk for HIV infection occurred, whether a 3 month follow up test is indicated and what you are going to do to reduce future risks.

Of course, the HIV antibody test, like all other medical procedures, is kept completely confidential.

Fade out…Fade into Bobby

Off-camera speaker: The next question is - What does a negative test mean?

Bobby:

A negative result means that HIV antibodies are not currently detected in the blood. That may mean that you are not infected, but that may also mean that not enough time has passed for the body to produce enough antibodies to be detected on the test. If you have had a recent risk you would need to test again in 3 to 6 months.

It's your responsibility to protect yourself and others. Being tested, not sharing needles, and using condoms each and every time you have sex helps do that.

Fade out…Fade into Vivian

Off-camera speaker: Vivian, What does a person do if the test turns out positive?

Vivian:

Even if the test turns out positive, you owe it to yourself to get tested in order to improve the quality of your life. If you are HIV positive, but don't get tested, then the virus is in control of your life. The only way that you can take control is by getting the test done. Once you are aware of your HIV status, you can take steps to improve your life.

If you test HIV positive, there are drug treatments that are available that can allow you to remain healthy for a longer period of time. Also, if you have a healthy lifestyle by eating healthy and exercising, you can increase the quality of their life.

It is also important that you use condoms consistently and never share needles to prevent the spread of the disease.

Fade out…Fade into Bobby

Off-camera speaker: Bobby, the final question for today is - Who should be tested for HIV infection?

Bobby:

If you have ever had any type of unprotected sex then you should be tested for HIV. If you have shared needles then you should be tested. This includes people from all walks of life, young or old, whatever your sexual orientation, its your decision. No one is immune from this disease.

Fade out…Fade into Bobby and Vivian

Off-camera speaker: Thank you all for coming today. I hope this session has been helpful for you, and all your questions have been answered. I would also like to thank Vivian and Bobby for being here today.

Fade out…Fade back into Brian and Susan talking

Brian: Well Susan, I guess that answers all of our questions. What do you think, are you gonna get tested?

Susan: Well, it sounds like it is important, so I think I should have the test done. It is my responsibility to take care of myself, because nobody is going to do it for me.

Brian: You're right, can I go with you?

Susan: Sure.

Brian: I really should get tested too. There is every reason to get tested since it is free, and offered right here on campus.

Susan: Yeah.

Appendix C. Demographic and Behavior Questionnaire that was used for Time 1 and Time 2 Testing Sessions.

Completion of this survey indicates voluntary consent and an understanding of the procedures used.

Please answer the following questions. Do not put your name anywhere on this questionnaire. An ID number will be used to identify your data while maintaining your anonymity. Please create an ID number that will be both unique to you and anonymous by using your first two initials and your last four numbers of your social security number. (This system should also allow you to easily recall the number that you created for future reference).

ID # _____

Age: _____

Gender: _____

Race: African-American Caucasian Hispanic Other_____

Year in school: Freshman Sophomore Junior Senior Other_____

Have you ever had sex? Yes No

Please describe your sexual behavior using the following scale:

1 2 3 4 5 6 7 8 9 10

Only have sex with women

Only have sex with men

When you have sex, how often do you and your partner use condoms? Please use the following scale.

0 1 2 3 4 5 6 7 8 9 10

Have not had sex Never Always

Do you ever inject drugs with a needle that someone else has used?

1 2 3 4 5 6 7 8 9 10

Never Always

How would you rate your knowledge about AIDS and HIV on the following scale?

1 2 3 4 5 6 7 8 9 10

Poor Excellent

On a scale from 1 – 10, do you feel likely to get HIV infection or AIDS?

1 2 3 4 5 6 7 8 9 10

Definitely Not at all

Do you personally know someone who is HIV positive, has AIDS, or has died from AIDS? YES NO

How likely are you to get an HIV test this semester?

1 2 3 4 5 6 7 8 9 10

Not at all Definitely

Have you ever had an HIV test? Yes No

Please list the number of times you have had an HIV test. _____

When was your most recent HIV test? _____

How likely are you to get an HIV test in the next year?

1 2 3 4 5 6 7 8 9 10

Not at all Definitely

How likely are you to get an HIV test anytime in the future?

1 2 3 4 5 6 7 8 9 10

Not at all Definitely

How hard would it be for you to find out where to go to receive an HIV blood test?

1 2 3 4 5 6 7 8 9 10

Very hard Not very hard

How difficult would it be for you to schedule an appointment to receive an HIV test?

1 2 3 4 5 6 7 8 9 10

Very difficult Not very difficult

How difficult would it be for you to return to the testing site to receive your HIV test results?

1 2 3 4 5 6 7 8 9 10

Very difficult Not very difficult

How hard would it be for you to get an HIV blood test?

1 2 3 4 5 6 7 8 9 10

Very hard Not very hard

How effectively could you persuade your sexual partner to get an HIV test?

1 2 3 4 5 6 7 8 9 10

Effectively Ineffectively

How hard would it be for you to continue using condoms every time you have sexual intercourse until both of you have had an HIV test?

1 2 3 4 5 6 7 8 9 10

Very hard Not very hard

How hard would it be for you to take a *CPR* class?

1 2 3 4 5 6 7 8 9 10

Very hard Not very hard

How likely are you to take a *CPR* class this semester?

1 2 3 4 5 6 7 8 9 10

Not at all Definitely

Appendix D. HIV Antibody Testing Coupon that was used for Tracking Participants who chose to be tested for HIV Infection.

ID# _____

If you decide to have HIV antibody test done, please turn in the top half of this form either at the on-campus-testing site, or at the health department, to enable us to keep track of how many people receive the testing. Keep in mind, we will not have access to any health information, returning the coupon will only help us keep track of how many people get tested.

Tear here

HIV Antibody testing options

HIV Antibody testing is available at the health department by appointment. The number to call

for appointments is

343-6537

HIV Antibody testing is available on campus at the testing van in the visitor parking lot beside Westside Hall on October 6 from 2-3pm

HIV Antibody testing is available on campus on October 21 in the University Union rooms 201A and 201B from 1-3pm and at the Warwick Center (formerly the University Center) from 1-3pm.

Testing on campus is on a first come, first served basis, so it is best to arrive early.

Your scheduled date to return for follow-up questionnaires is:
November ____, 1998 at ___ o'clock
Please meet by the sign up board.
If you can't meet at your scheduled time, please call 343-5719 to arrange a new time. It is important that you complete the research by doing the follow-up. Don't forget, your name will be entered in a drawing for $50 after you complete the follow-up questionnaires.

ID #_____

Appendix E. Demographic and Behavior Questionnaire that was used for the Follow-up Testing Session.

Completion of this survey indicates voluntary consent and an understanding of the procedures used.

Please answer the following questions. Do not put your name anywhere on this questionnaire. An ID number will be used to identify your data while maintaining your anonymity. Please create an ID number that will be both unique to you and anonymous by using your first two initials and your last four numbers of your social security number. (This system should also allow you to easily recall the number that you created for future reference).

ID # _____

1. Age: _____
2. Gender: _____
3. Race: African-American Caucasian Hispanic Other_____
4. Year in school: Freshman Sophomore Junior Senior Other_____
5. Have you ever had sex? Yes No
6. Please describe your sexual behavior using the following scale:

   1 2 3 4 5 6 7 8 9 10

   Only have sex Only have sex

   with women with men
7. When you have sex, how often do you and your partner use condoms? Please use the following scale.

0 1 2 3 4 5 6 7 8 9 10

Have not had sex Never Always

8. Do you ever inject drugs with a needle that someone else has used?

1 2 3 4 5 6 7 8 9 10

Never Always

9. How would you rate your knowledge about AIDS and HIV on the following scale?

1 2 3 4 5 6 7 8 9 10

Poor Excellent

10. On a scale from 1 – 10, do you feel likely to get HIV infection or AIDS?

1 2 3 4 5 6 7 8 9 10

Definitely Not at all

11. Do you personally know someone who is HIV positive, has AIDS, or has died from AIDS? YES NO

12. Have you ever had an HIV test? Yes No

13. Please list the number of times you have had an HIV test. _____

14. When was your most recent HIV test? _____

15. Did you get an HIV test this semester? Yes No If yes, then answer 15b.

15b. Where did you get the test? _____Did you turn in your coupon? Yes No

16. How likely are you to get an HIV test in the next year?

1 2 3 4 5 6 7 8 9 10

Not at all Definitely

17. How likely are you to get an HIV test anytime in the future?

1 2 3 4 5 6 7 8 9 10

Not at all Definitely

18. How hard would it be for you to find out where to go to receive an HIV blood test?

1 2 3 4 5 6 7 8 9 10

Very hard Not very hard

19. How difficult would it be for you to schedule an appointment to receive an HIV test?

1 2 3 4 5 6 7 8 9 10

Very difficult Not very difficult

20. How difficult would it be for you to return to the testing site to receive your HIV test results?

1 2 3 4 5 6 7 8 9 10

Very difficult Not very difficult

21. How hard would it be for you to get an HIV blood test?

1 2 3 4 5 6 7 8 9 10

Very hard Not very hard

22. How effectively could you persuade your sexual partner to get an HIV test?

1 2 3 4 5 6 7 8 9 10

Effectively Ineffectively

23. How hard would it be for you to continue using condoms every time you have sexual intercourse until both of you have had an HIV test?

1 2 3 4 5 6 7 8 9 10

Very hard Not very hard

24. How hard would it be for you to take a *CPR* class?

1 2 3 4 5 6 7 8 9 10

Very hard Not very hard

25. How likely are you to take a *CPR* class this semester?

1 2 3 4 5 6 7 8 9 10

Not at all Definitely